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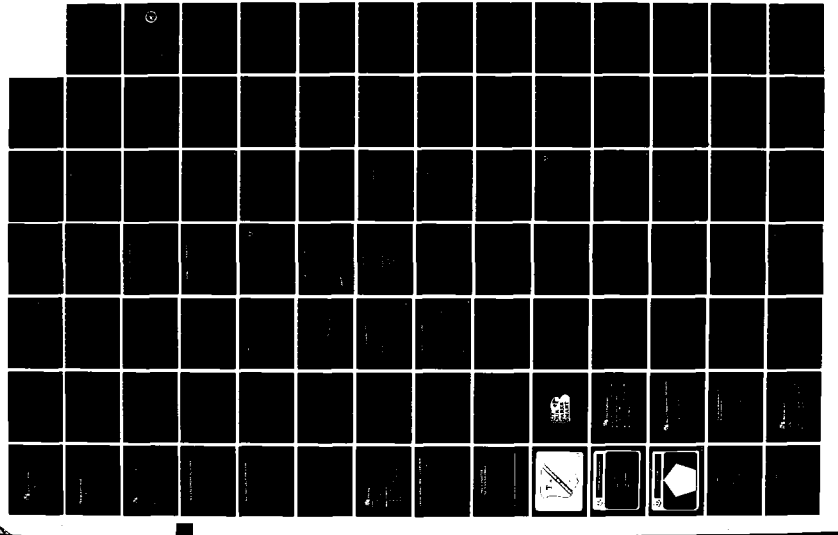

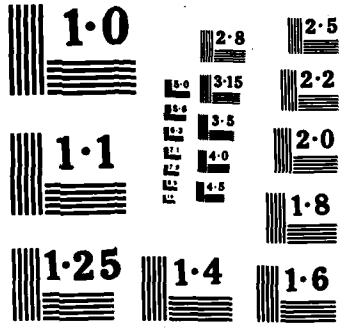

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1984 DOD VALUE ENGINEERING CONFERENCE REPORT

"VE - A TOOL THAT BENEFITS LINE MANAGEMENT"

PART IV

WORKSHOP B : VE ON SPARE PARTS

1-2 NOVEMBER 1984

XEROX INTERNATIONAL CENTER FOR TRAINING AND MANAGEMENT DEVELOPMENT

LEESBURG, VIRGINIA

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Value Engineering
Conference Report

20 ABSTRACT (Continue on reverse side if necessary and identify by block number)

This Conference Report summarizes and consolidates the proceedings from the 1984 DoD Value Engineering Conference held 1-2 November in Leesburg, VA. The findings and recommendations with supporting material from the five workshops are provided in addition to the complete plenary session presentations. An Executive Summary is presented in PART I.

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1984 DoD Value Engineering Conference REport

PART IV

Workshop B: VE on Spare Parts

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WORKSHOP "B"

(Value Engineering (VE) - Spares)

Executive Summary

RECOMMENDATIONS

0 VE efforts in the spares area are mostly in-house. There is a need to increase VECP efforts in the spares area and by encouraging more contractor involvement.

0 Reverse engineering is a must for spares parts, especially because of the lack of adequate data.

0 The Services need to place new emphasis on resources in their Engineering Support Activities (ESAs) to support their own VE efforts, the DLA VE in-house program, and contractor VECPs.

0 The absence of adequate technical data to support competition in the purchase of spare parts is still an underlying problem. There is a need to speed OSD implementation of the new requirements of Title XII to improve data calls from prime contractors.

0 There is a need to continue emphasis on the interaction of VE and standardization. We also need to improve communications between VE, standardization and Item Managers.

0 Our Competition Advocate Programs are working, but they are labor intensive. There is a need for DoD to continue to emphasize the program and encourage the use of VE.

0 We need to publicize the new Value Engineering Data Information Storage and Retrieval System (VEDISARS). A two-year pilot test in the Government Industry Data Exchange Program (GIDEP) has started. We should publish success stories in the bi-monthly GIDEP Newsletter.

0 We need a better feedback loop on VE experiences to help now Program Managers.

0 There is a need to establish dedicated VE Program Managers in all Contract Administration Services.

0 A Contract Administration Office (CAO) participant reported his office was administering concurrent production contracts for the same equipment for two Military Services. The contractor developed and tested a redesign of a major subassembly to reduce production costs while maintaining the same or slightly improved performance and reliability. Identical VECPs were submitted t both customers. The CAO recommended adoption of the change by both customers. One customer accepted the change, the other did not. The contractor now must manufacture smaller quantities of

both configurations with attendant increased production costs for each. A system is needed to encourage DoD components using the same item to accept VECPs accepted by other components.

0 All of the above accentuate the need for improved communications to tell of VE achievements, the problems solved, and standardization and supply improvements realized.

PUBLIC AFFAIRS OFFICE
HEADQUARTERS, DEFENSE LOGISTICS AGENCY
CAMERON STATION
ALEXANDRIA, VIRGINIA 22314

JANUARY 1983

RICHARD G. BRUNER
Executive Director, Technical & Logistics Services
Defense Logistics Agency

Richard G. Bruner was born in Dayton, Ohio, on September 24, 1930, son of Virgil and Treva Bruner.

Mr. Bruner was graduated from the General Motors Institute of Flint, Michigan, in 1953 with a Bachelor of Industrial Engineering degree. He subsequently entered the U. S. Army, serving as an Engineer Assistant at Fort Meade, Maryland, and was honorably discharged in 1956.

Following his discharge, he was employed as an Industrial Engineer with the Delco Products Division of General Motors Corporation. He began his civil service career as a Supervisory Industrial Engineer in 1958 at Dayton Air Force Depot and Defense Electronics Supply Center at Dayton.

In 1963 he commenced studies as a Sloan Fellow at the Alfred P. Sloan School of Management, M.I.T., and received his Masters Degree in Industrial Management in 1964. He was then selected as a key member of the National Planning Group to develop the details involved in the consolidation of the Defense Contract Administration Services and followed this assignment as a Liaison and Programs Officer (Logistics) in the USAF Auditor General Office at Wright-Patterson Air Force Base, Ohio.

He served as Chief, Management Engineering and Programs Division of Defense Contract Administration Services, Headquarters, Defense Supply Agency from 1965 to 1967, when he was promoted to Deputy Executive Director, Technical and Logistics Services, Defense Supply Agency.

He served as the Acting Administrator of the Defense Documentation Center from July through October 1971. He became Executive Director, Technical and Logistics Services, Defense Logistics Agency on May 9, 1972.

He has received many awards, including the Exceptional Civilian Service Award, the Meritorious Civilian Service Award, the DoD Distinguished Civilian Service Award and the Executive Service Meritorious Award.

He is married to the former Jo-Ann Tedrick of Dayton, Ohio. Mr. & Mrs. Bruner have two children, David and Susan.

Talking Paper

on

Spare Parts

Background

- Spare parts represents a significant portion of the DoD procurement budget, generally about 10 percent. In FY 84 we budgeted about $22 billion to purchase about one third of our total inventory of 4 million parts. Highly structured material management systems are necessary to support troops or equipment positioned world-wide. This support is critical to maintaining readiness.

- Deficiencies in the acquisition of spare parts led to Congressional review in 1961, and to commitment by the existing administration to improve. In 1967 further Congressional investigation revealed a pattern of excessive parts prices with, again, a commitment from that Administration to improve.

- Despite good faith efforts, spare parts procurement suffered in the 70's from the effect of rampant inflation, budget constrictions, limited spare parts buys, the turnover of skilled acquisition personnel, and the increased burden of supporting old technologies -all culminating in the sudden effort to ramp up in the interest of overcoming what was perceived to be an inadequate defense posture. The emphasis on getting combat capability caused us to employ techniques which permitted us to buy faster, but at higher cost.

- A draft DoD Inspector General report (issued June 1983) was severely critical of Navy and Air Force procurement of aircraft engine spare parts particularly for failing to follow procedures designed to assure that prices paid were fair and reasonable. This draft report contained erroneous data and was recalled on July 15. However, the erroneous data had been leaked to the press. The public was inundated with false information and unbalanced reporting. The corrected data published February 10, 1984, showed, for example, that instead of 65 percent of the engine aircraft engine spare parts increasing in price by more than 50 percent between 1980-1982 as reflected in the recalled report, only 12 percent of the parts had increased over 50 percent. We have not seen any reporting of the correct data.

- However, real problems were disclosed by our auditors and alert acquisition personnel and this Administration is firmly dedicated to correcting these problems and assuring that reform actions are taken and permanently institutionalized. In July 1983, the Secretary directed that certain actions be taken to improve the acquisition of spare parts (10-Point Program). In

August 1983, he followed this up with more encompassing direction as to actions and initiatives to be taken to reform the acquisition of spare parts. The Military Departments and DLA have moved out most aggressively on reforms and supplemented the Secretary's direction with additional actions. Collectively they are pursuing 350 reform initiatives. An additional 7,000 personnel are being added to assure that the reforms are implemented and spare parts are acquired economically and efficiently.

- We have found that the issue is systemic. Every aspect from budget formulation to disposal is impacted in some manner.

- Initiatives require changes of policy, procedural revisions, training of personnel, acquisition of data management systems and other long lead-time activities. Improvements have been initiated but full implementation will take place over time.

- The DoD Inspector General issued on May 25, 1984, a Defense-wide audit of spare parts procurement. The report concludes that only six percent of the value of the items reviewed were unreasonably priced. The items reviewed were purchased prior to the Secretary's direction of July 1983. The report states that actions taken by the Secretary will correct the causes of unreasonable prices.

- The Office of Federal Procurement Policy, as required by Congress, reviewed spare parts procurement and issued a report on June 1, 1984. They were supportive of our actions and initiatives to reform the acquisition of spare parts. Their recommendations were aimed primarily at ensuring that the momentum of the present reform initiatives be sustained.

- The 1985 DoD Authorization Act contains a number of provisions directed at improving the management and acquisition of spare parts. In general these legislative provisions track closely with our reform initiatives. The Secretary stated in his report to Congress of June 4, 1984, on actions to improve the acquisition of spare parts that, "I believe our intensified management in this matter negates the need for corrective legislation."

Actions Taken

- Each DoD Component has formulated, is implementing, and is giving high level management attention to a written spare parts initiatives program. As a result, the Army has undertaken 67 initiatives, the Navy 102, and the Air Force 178. The Defense Logistics Agency is substantially augmenting its existing competition and pricing programs with increased emphasis on spare parts acquisition and pricing support for the Military

Services by the Defense Contract Administration Services Regions. These initiatives address the functional areas of requirements, finance and budgeting, system development and acquisition decisions on spare parts, contracting, pricing, support, resources, and equipment.

- Special task teams have been established to review reprocurement data packages for currency, accuracy, and completeness. These task teams consist of engineering personnel and equipment specialists with support from legal counsel and other functional areas as required. Data rights for competitive reprocurement are being evaluated and DoD has initiated an in-depth study of acquiring reprocurement data and data rights. The breakout regulation establishes a screening procedure to review data when the annual purchase value is $10,000 or more, but DoD activities are screening parts below this threshold.

- Additional resources have been assigned exclusively to value engineering tasks. Value engineering techniques applied by government personnel often reduce the cost of parts. Reverse engineering produces technical data suitable for competitive bidding for parts which otherwise are available only from a single source. Additional personnel are being assigned to this function as trained people become available. The dollar threshold for spare parts contracts to contain a value engineering incentive clause has been reduced from $100,000 to $25,000.

- Procedures have been established to identify and resolve pricing anomalies and to evaluate price increases over 25%. Additional purchasing personnel have been assigned to analyze significant price increases, negotiate reasonable prices, and accurately justify and document the price increases. The purchase of spare parts when the price has increased by more than 25% within the most recent 12 month period has been prohibited unless the contracting officer certifies in writing to the Head of the Contracting Activity the price is reasonable or that national security interests require the parts be purchased.

- The DoD Parts Control Program is being applied mandatorily to all new systems to enhance the use of commercial or common parts, or parts already in the inventory. This program has proven effective in eliminating potentially duplicative parts from entering the inventory. The Services have been directed to have contractors identify their vendors for all parts supplied in the provisioning phase of a contract and the Services may also direct vendor identification in the replenishment phase.

- DoD Components have been directed to change contractor overhead cost allocation practices which result in either distorted or unreasonable prices for spare parts. Equal allocation of overhead costs among all items in a contract has been barred

because this accounting practice results in distorted unit prices. Parts with a very low intrinsic value appear grossly overpriced.

- Voluntary refunds of over $2 million have been secured, as well as suspension and debarment of offending contractors in appropriate instances. This is an ongoing initiative as instances of unrealistic prices paid come to light and are evaluated. Most cases involve legitimate accounting practices and procedures for overhead allocation but result in skewed unit prices for low dollar parts.

- Use of redeterminable ordering agreements has been eliminated in most instances and significantly curtailed even when dictated by readiness and support considerations. Preferred and traditional methods of contracting are being utilized, every effort is made to definitize the price in a timely manner.

- The breakout program has been strengthened by new procedures. A revised regulation with stricter procedures was issued in July 1983. Additional technical and engineering personnel have been assigned to implement the regulation. Screening and additional parts breakout is on the increase. A related initiative is the designation of competition advocates and breakout managers at all procuring activities.

- Meetings have been held with defense contractors to seek mutual corrective actions. The Deputy Secretary of Defense and top Service officials have communicated with top industry Chief Executive Officers. Industry has been generally responsive and has promised its cooperation.

- Pricing "Hot Lines," which have been in existence for several years, have received increased emphasis. Reports of suspected overpricing receive prompt and thorough review by inventory managers in order to correct erroneous prices in the files and to resolve instances of overpricing by contractors.

- Training curricula have been expanded to include both entry level training and refresher retraining for journeymen.

- Personnel evaluation factors are being revised to consider the achievement of economical procurement. Greater emphasis is placed on performance in keeping down costs and prices rather than achieving quantity production and speed.

- Modernized automated data processing systems for logistics are being studied and planned to improve processing requirements, procurement functions and technical documentation systems. Improvements are needed in both hardware and software. Implementation will require large investments in equipment over an extended time frame.

- A "model" concept program has been developed to motivate industry to achieve increased competition in subcontracting for spare parts and potentially greater opportunity for competitive breakout.

- Authorization, appropriation, apportionment, budgeting, and financial management practices and regulations pertaining to the acquisition of spares are being reviewed. A number of changes have been incorporated in the Department of Defense Budget Guidance Manual.

- The feasibility of biennial budgeting for all appropriations and programs of the Department of Defense is being studied. Acquisition of replenishment spare parts and consumable items is one of the categories being considered for the possible application of biennial budgeting.

THE SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

29 AUG 1983

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
UNDER SECRETARIES OF DEFENSE
ASSISTANT SECRETARIES OF DEFENSE
GENERAL COUNSEL
INSPECTOR GENERAL
ASSISTANTS TO THE SECRETARY OF DEFENSE
DIRECTORS OF THE DEFENSE AGENCIES

SUBJECT: Spare Parts Acquisition

My memorandum of July 25, 1983, announced a ten point program on spare parts procurement. Procurement, however, is but one facet of the problem. While the focus of immediate attention, other aspects of the spare parts total acquisition process must get equal scrutiny. Improvement in all areas is essential. While this memorandum deals primarily with acquisition, attention next will be focused on the requirements process, the authorization and appropriation process, and the way we manage readiness and support.

I am resolved that the Department of Defense act decisively. Nothing short of our full management capability and technical expertise must be applied to this challenge. Our credibility before the Congress and the public is at stake. Accordingly, I am now directing the additional actions set forth below.

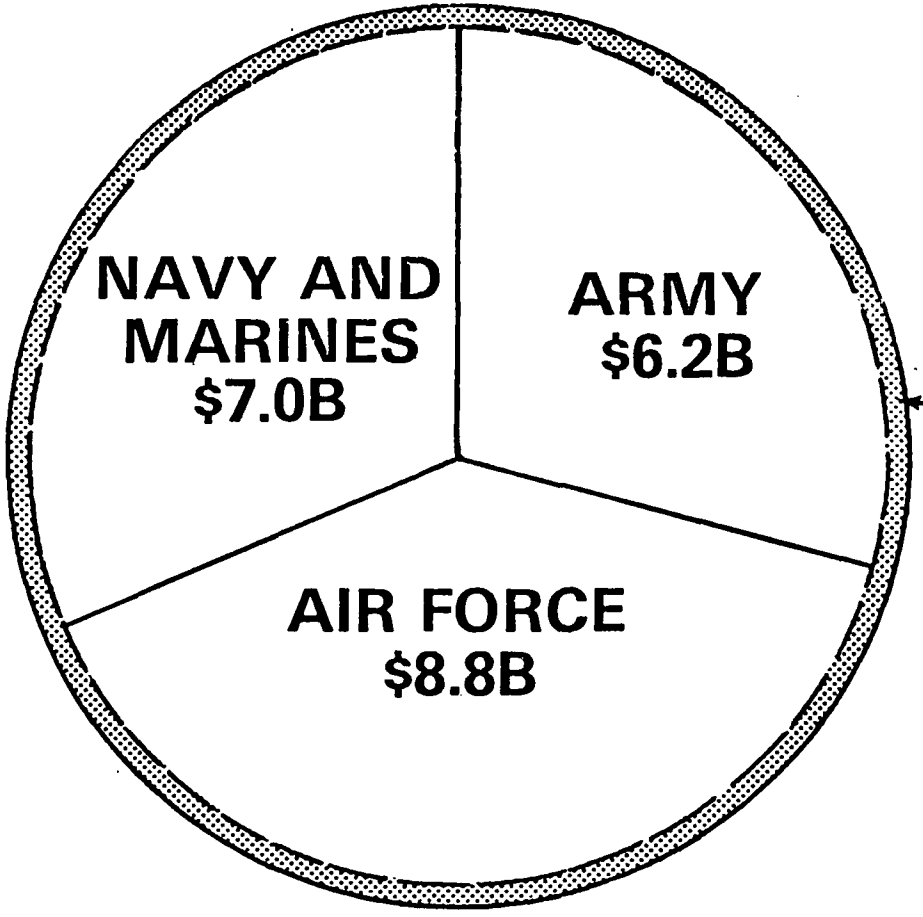
In some cases I have designated precise milestone dates. This is addressed in the enclosure, as is further discussion of selected actions. I am asking the Deputy Secretary of Defense, as Chairman of the Defense Council on Integrity and Management Improvement, to take the lead in providing overall guidance and coordinating your efforts. I expect him to monitor our progress.

Near-Term Actions (within 90 days)

- Provide resources to induce desirable breakout, effective competitive procurement, and improved pricing in the acquisition of spare parts.
- Apply the DoD Parts Control Program to enhance competition. The optimum use of standard military parts or commercially available parts in development of new systems will be mandatory.
- Accelerate plans for acquisition of computer hardware and software to assist parts control personnel.
- Institute action to identify disparities in spare parts prices within and among various procuring activities.

THE ARMY SPARES BUDGET

FISCAL YEAR 1984
$ BILLIONS

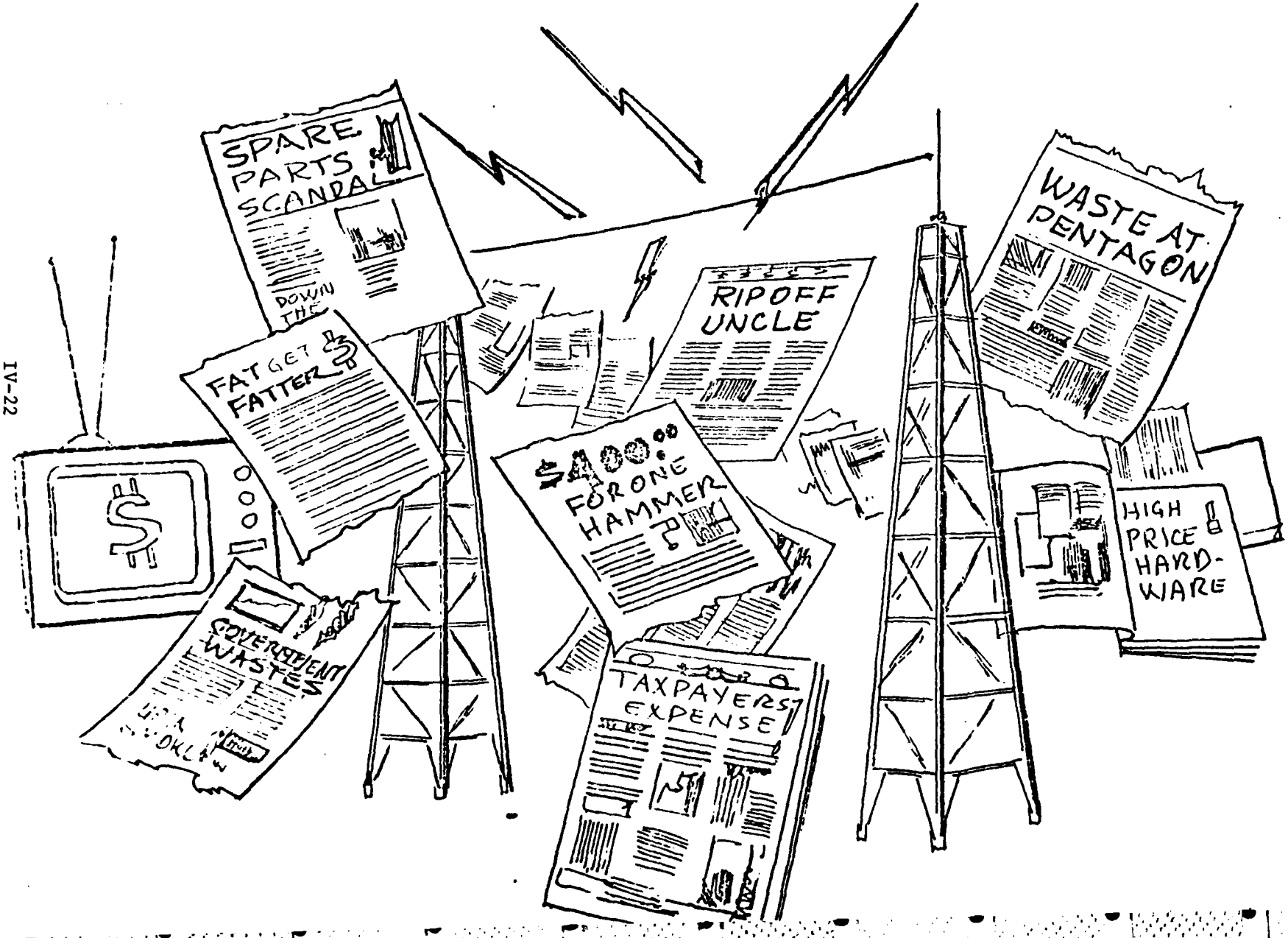


DLA WILL SPEND $3B FOR THE SERVICES

TOTAL $22 BILLION

REFLECTS ON PROFESSIONALISM

ADVERSE PUBLICITY



SPARE PARTS ACQUISITION

CONCLUSION: The proposed solution offers an immediate incentive. It can influence and even prove a determinant in proposal evaluation and source selection for a major system. It focuses attention on the problem early on, before design is complete and a subcontractor/vendor matrix established. By directly funding the contractor's associated effort, it does not increase his overhead costs and also becomes a direct cost on which other overhead can be charged and profit earned. However, as a direct cost, it must be done and done in accordance with the contract's terms and conditions. It is subject to government oversight. The award fee offers a near-term incentive while focusing high level management attention on the effort. The licensing and/or royalty fee arrangement offers a long-term and continuing incentive to make the program succeed because it returns profits to the prime without any investment of capital or on-going utilization of production resources. The arrangement can also be flowed down. It eradicates by offset all the incentives presently in-place that inhibit breakout, competition, and contractor assistance. It employs practices well known to the contracting community both in the private and public sector. It need await no special approvals or authorities to be tested or implemented. It does not add to procurement leadtime and, in competition, it should add little or no cost to FSED.

RECOMMENDATION: Immediately develop a TEST PROGRAM leading to full-scale implementation. The initial resultant guidance should be expressed in no greater detail than policy direction as would be found in a Directive or an Instruction. At an appropriate time, suitable DAR coverage could be published.

44293

- o Make-or-Buy Plan

- o Engineering Design in terms of furthering utilization of commercially available components, non-proprietary items, competitively available vendor material, military standard parts

- o Management Plan to facilitate:

  - early breakout

  - parallel competitive sources for vendor items

  - accomplishment of the aforementioned engineering design

  - review of technical data packages for completeness, suitability, currency, and relief from inappropriate proprietary restrictions

  - enhancement of the competitive vendor base and the establishment of new vendor sources during FSED and the early phases of initial productions

2. The prime contractor's additional engineering design, and management effort to accomplish the objectives set forth in his proposal(s) for this express purpose should be a separately priced line item in the pertinent FSED contract.

3. The instant FSED contract should provide for an Award Fee modeled on the "report card" concept. It should provide for an award fee determination panel composed of high levels of government management; periodic evaluations to influence prospective behavior; written critique by the Service Secretary to the CEO; the immediate payment of all award fee amounts earned; and no rights of appeal.

4. The instant FSED contract should provide for a separate Memorandum of Agreement (MOA) between the prime contractor and the government. It would be negotiated with all offerors while still in proposal evaluation and source selection. The purpose for the MOA is to get advance agreement on the amount of the royalty and/or the licensing fee to be included in selected vendor prices. The fee arrangement would be expressed as a percentage of the item price paid by the government. Then, should those vendors later be awarded a contract directly by the government, the agreed-upon fee (having been included in the price) would be paid to the prime contractor by the vendor. A licensing fee would be proper if contract effort involved utilization of the prime contractor's proprietary data; a royalty fee would be proper when the prime's propietary data is not a factor. The MOA would prescribe the term of years within which the agreement would be in force and on whom it would be binding. Any fees paid pursuant thereto would be in the purchase price of the vendor item--hence, it would be borne by the user. However, care must be exercised to avoid payment of royalty fees for break out that would and should have been otherwise accomplished as part of the contractor's normal responsibilities.

- o not labor intensive in terms of government personnel
- o predisposed to alter in some meaningful way our traditional approaches
- o acceptable to industry, for the problem cannot be solved by the government alone
- o cost effective in a way that is readily apparent and demonstrable
- o easy to communicate to the acquisition work force, where the rubber hits the road
- o not so complex as to be difficult to comprehend or to implement
- o susceptible of being implemented within all of DoD with a high degree of uniformity so as to preserve the concept of "one face to industry"
- o not too costly, nor should it require substantial investments of program funds to initiate and/or accomplish
- o not contrary to the principle of decentralized management and the preservation of decisionmaking authority, flexibility, and discretion at the lowest possible level
- o financially beneficial to both industry and government

The solution dictates that it be approached early in the acquisition process while there is still effective competition to assure a reasonable degree of industry responsiveness and reasonable attendant costs. The techniques employed must be compatible with existing acquisition practices and require no new authorities, laws, or regulations. Additionally, it is at the earlier stages of the acquisition process where the leverage of any incentive is greatest because so much of the program is still prospective. The "work" must be accomplished by contractor personnel but not as "services." There must be on-going visibility by high level management in both industry and government. The rewards to industry must be immediate, near term, and long term; all three are required. The same holds true for the government. The rewards enjoyed must not be at the expense of otherwise realizable profits and/or incentive fees in a way that merely reapportions the profit pool. The payoff must be big to attract and to hold the continuing attention of all- -including the Congress and the public. Lastly, implementation in the very near term should be possible.

SOLUTION: All basic tenets must be employed to be effective, but the quantitative measures should be assigned to, or reserved for, the discretion of decentralized management and planned on a case-by-case basis. The basic tenets are:

1. The competition leading to award of FSED for a major system should turn, in part, on the prospective prime contractor's technical and management proposals addressing such things as:

- o incomplete and/or inadequate "make-or-buy" program reviews
- o disincentives on contractors to break out vendor acquired parts for direct acquisition by the government
- o lack of positive incentives on contractors to break out vendor acquired parts for direct acquisition by the government
- o lack of government personnel resources with the appropriate skills and training to get the job done
- o lack of high level management attention in industry
- o lack of high level management attention in government
- o prior course of dealings, industry/trade practices, and tradition
- o late apportionment of fiscal year funds for O&M acquisition
- o incomplete, untimely, and inadequate acquisition planning
- o low volume buys
- o disproportionate emphasis on meeting operational requirements

DISCUSSION: The spare parts "problem" is not any one problem. It is many problems that vary in type, combination, and impact depending upon:

- o the point in time during the acquisition process when the issue is being addressed
- o the type, nature, and quantity of the spare parts at issue
- o the system that is being supported

There is no one solution. That is not to say, however, there is no solution. The problem area has to be broken down into functionally related components. There are:

- o problem(s) that are inbeing
- o problem(s) we are presently evolving
- o problem(s) that will arise in the future

This concept paper focuses primarily on how to avoid the problems in the future. There is some immediate transference possible, and that is encouraged.

ANALYSIS: Any conventional solution is invariably labor intensive. That makes it somewhat less than viable, irrespective of conceptual appeal. A solution to the problem is required that is:

influences our ability to break out spare parts for procurement from other sources. Clearly lacking is a motivational response needed from our major systems developers. Absent that, we will have simply modest improvement with no assurance that such improvement will continue. Therefore, we are considering two new efforts.

First, we must make breakout of spare parts a factor in the source selection of a major weapons systems developer. Second, we must couple this with incentive arrangements that provide the contractor a share in cost savings generated by his efforts. Such procedures will be developed for test at the earliest practicable date. These procedures have the potential of assuring long-term application and benefit without the need to increase significantly manpower resources, without substantially adding to acquisition costs, and without unduly prolonging procurement leadtime.

Following is a draft concept paper that discusses this in greater detail. I wish your constructive comments within 30 days with the full intention of designating a joint service and DLA task group to develop a comprehensive test program within 90 days. Full-scale implementation will be accomplished following evaluation.

"DRAFT" CONCEPT PAPER

SUBJECT: Enhancing (1) breakout and (2) competitive solicitation and procurement of both initial and replenishment spare parts for new major systems

PROBLEM: The cost of acquiring the subject parts is increased by any one or a combination of the following:

- existing in-house "cost models" that distort prices paid for spare parts by inappropriately or disproportionately allocating the prime contractor's costs for engineering, manufacturing, material handling, G&A, and plant-wide variances as well as associated overhead charges and profit
- tiering of vendor acquired spare part prices merely flowing through the prime contractor with the latter's overhead and profit
- absence of effective competition for subcontracted items and vendor furnished parts
- proprietary rights, data right, and patent right limitations
- incomplete, inaccurate, and/or obsolete reprocurement data packages
- insufficient procurement leadtime
- dated and/or incomplete knowledge of the industrial base
- institutional biases on the part of industry and government

Examine and advise me of your views as to existing policy dealing with the rights accruing to the Government under IR&D.

Negotiate firm dates in new contracts by which "unrestricted" use of data encumbered by the contractor's background patents and/or data rights for data initially developed at its expenses will be available. Particular attention should be given to those cases where the Government has borne the major cost of development.

AUTOMATE DATA REPOSITORIES TO IMPROVE THE ACQUISITION, STORAGE, AND RETRIEVAL OF TECHNICAL DATA

With state-of-the-art technology, the automated data repositories can:

- Eliminate bottlenecks in paper/microfilm manual identification, retrieval, and individual reproduction operations.
- Reduce the cost of repository operations and the cost of data.
- Permit direct interface with industry and among the Services in computer-aided design (CAD) and computer aid manufacturing (CAM) systems.
- Provide for computerized review and inspection, indexing, and verification of "rights in data" claims.
- Provide for timely identification of the appropriate data and its subsequent delivery to the user or buyer via telecommunications.

The Services will support and fund the ongoing Tri-Service/Joint Committee on Printing effort to acquire and install prototype repositories with a target date for completion of FY 1987. The standard system specification has been defined. Plans to be supported by the Services include, subject to availability of funds:

- Army. Installation at MICOM and CECOM in September 1984.
- Air Force. Complement Army contract, and fund in FY 1984 for one system.
- Navy. Installation at NPFC in September 1984. Approve of the NAVAIR system for implementation at the NAVAIR central repository.

ELIMINATE DISINCENTIVES ON INDUSTRY TO FACILITATE BREAKOUT AND COMPETITION OF SPARE PARTS

What we do up front in the development of major systems and in obtaining adequate reprocurement technical data at the outset of production profoundly

- Within 60 days institute at each spares buying activity procedures to "flag" price disparities in spare part contracts.

- Assign adequate value engineering resources to review spares purchases and reduce excesses. Use ad hoc government VE teams, contract VE services, DoD personnel who currently have VE as a primary or collateral responsibility, and contract teams funded by the VE program clause of the DAR.

- Revise the current Value Engineering Incentive DAR clause for all supply and service contracts of $100,000 or more to mandate its use in contracts less than $100,000 for spare parts. Effective immediately, contracts for spare parts and repair kits of $25,000 or more for other than standard commercial parts will contain a VE incentive clause.

INSURE THAT PRICES PAID FOR PARTS ARE FAIR AND REASONABLE

Offer incentives to employees to increase competitive bidding and reward those who vigorously pursue cost savings. This requires beneficial suggestion/VE award programs specifically tailored to the acquisition of spare parts.

Take stern disciplinary action with those employees engaged in the acquisition process who are negligent in implementing our procedures. Performance in this area should be a scored evaluation factor in performance ratings.

Alert defense contractors to the seriousness of the problem and of our firm intention to keep prices under control. I expect implementation of an ongoing management procedure to insure continuing high level attention to this area. Action shall be taken to insure the high-level contractor management mirrors this effort.

Task Competition Advocates in all DoD components to challenge spares orders not made competively or which appear to be excessively priced. Competition advocates must be provided sufficient authority to intervene directly in instances where policy is not being appropriately implemented. A draft DoD directive on competition advocates will be prepared and distributed for comment within 90 days.

ACQUIRE REPROCUREMENT TECHNICAL DATA UNENCUMBERED BY NEEDLESS OR IMPROPER PROPRIETARY RESTRICTIONS

As part of the evaluation and source selection process, specific consideration will be given to breakout and competitive procurement of spare parts. Our ability, including cost to the Government, to acquire reprocurement data packages with unlimited rights thereto (given the nature and propriety of the prospective contractors' asserted rights) will be evaluated.

OPTIMIZE USE OF STANDARD MILITARY PARTS OR COMMERCIALLY AVAILABLE PARTS IN DEVELOPMENT OF NEW SYSTEMS

The DoD Parts Control Program promotes use of military preferred standard piece-parts during engineering design, development, production, or modification of equipments and major weapon systems. The program fosters standardization, which leads to greater demand for standard parts, reduction in varieties of parts in inventory, resultant increased production runs, and competition through multiple sourcing. It is accomplished through the engineering review of non-standard commercial parts and recommended preferred standard item replacements. DoDI 4120.19, Parts Control Program (PCP), is required in contracts for major weapon systems, end items of equipment where logistics support is required, and in which acquisition managers foresee appreciable life-cycle cost savings.

I am directing action to require mandatory application of the DoD Parts Control Program (at the present time approximately 40 percent of weapon system contracts are using the program on a voluntary basis). DoDI 4120.19 shall be revised to reflect the change from a voluntary to a mandatory program.

DLA should proceed with plans for acquisition of computer hardware/software to assist parts control personnel to achieve real time processing. Submission of the DLA plans for accomplishment is directed within 60 days.

GIVE ACQUISITION OF SPARE PARTS THE NECESSARY ATTENTION•

On August 2,1983 I issued a revised regulation (DAR Supplement No. 6) dealing with the breakout of spare parts. It provides procedures for screening requirements for replenishment spare parts to break them away from systems contractors for the purpose of buying them competitively or from the actual manufacturer (breakout). The regulation enhances the cost saving objective of breakout, contains substantive revisions of a number of procedures, and incorporates features that increase the utility of resources devoted to the screening process. You will insure that your personnel immediately implement the designed purpose of this regulation as a matter of highest priority.

USE VALUE ENGINEERING TO INVESTIGATE PARTS WHERE COST EXCEEDS INTRINSIC VALUE

The objective of Value Engineering (VE) is to identify more cost effective alternatives. An effective spare parts value engineering program must include procedures to identify those spares whose price is excessive and appropriate action to reduce unnecessary cost. Accordingly, each DoD component will:

- Expand training curricula to insure proper emphasis, understanding, and technical skill level for all personnel engaged in the acquisition of spare parts.

- Assign special task forces to review existing reprocurement data packages for spare parts with high annual buy/quantity values.

- Evaluate and make recommendations for changes to existing authorization, appropriation, apportionment, budgeting, and financial management practices, and regulations pertaining to acquisition of spares.

- Pursue with appropriate Congressional Committees and their staffs the merit of a two-year authorization for acquisition of replenishment spare parts and consumables.

- Insist upon contract terms and conditions in all future acquisitions that afford more equitable treatment and provide for greater assurance of fair and reasonable prices.

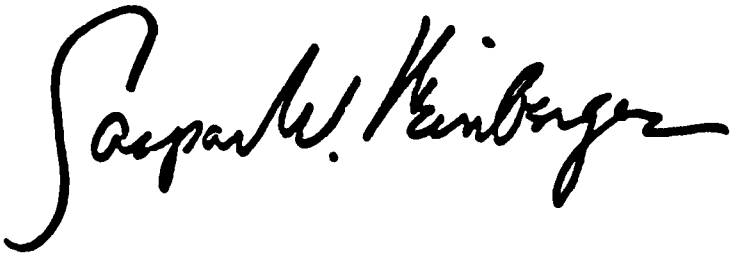
Long-Term Actions

- Automate data repositories to improve the acquisition, storage, update, and retrieval of reprocurement and technical data.

- Evaluate and assess accomplishments under the near- and mid-term actions for additional policy direction, as appropriate.

I am aware of the burdens these actions impose upon you and your staffs. However, we cannot defer action until such time as additional resources might be authorized and become available. Your full cooperation is appreciated.

Enclosure



44293

- Employ value engineering to investigate spare parts where cost or price exceeds intrinsic value.

- Assign more engineering resources to review new reprocurement data packages for adequacy.

- Develop and test a procedure to make breakout of spare parts a factor in source selection for new major systems. Develop new incentive arrangements to reward contractors for cost savings generated by their efforts.

- Negotiate contract data provisions which, as appropriate, reduce contractors' proprietary rights in data. A DAR deviation is approved for this purpose.

- Designate acquisition of spare parts and reprocurement data as an agenda item in Acquisition Strategy Panels, Advance Acquisition Plans, and Acquisition Review Councils.

- Revise performance evaluation factors for acquisition and logistics managers. Include emphasis on spare parts pricing, breakout, competition, and value engineering accomplishments.

- Implement DAR Supplement No. 6, "Replenishment Spare Parts Breakout Program" upon receipt.

- Consider in all contracts, as appropriate, the Government's right and ability to breakout and procure competitively spare parts.

- Discourage use of government specifications and contractor proposed engineering designs that inhibit subsequent competitive procurement of spare parts.

- Continue action on my "Ten-Point" Program to insure that prices paid for all spare parts are fair and reasonable.

- Pursue appropriate refunds or other recoupments vigorously following any audit or other disclosure of incorrect pricing or overcharge.

- Review existing contracts to fully address any and all opportunities for improved pricing of spare parts, including breakout and competition.

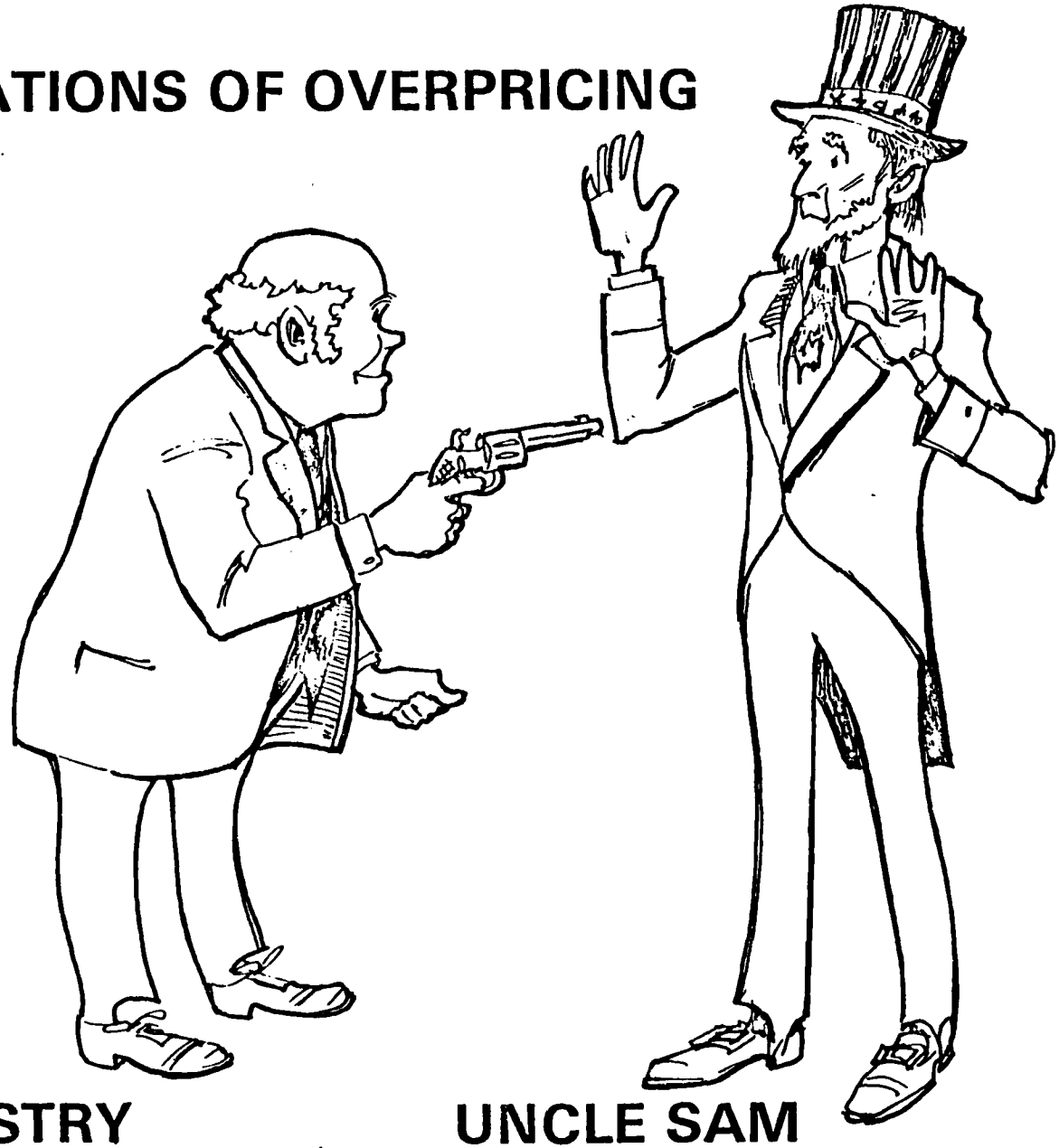
- Instruct acquisition personnel to challenge any procurement action for spare parts where estimated or negotiated price appears unrelated to intrinsic value.

<u>Mid-Term Actions (within 180 days)</u>

- Reexamine existing policy on patent and data rights arising under government funded IR&D.

IMPRESSIONS

ALLEGATIONS OF OVERPRICING

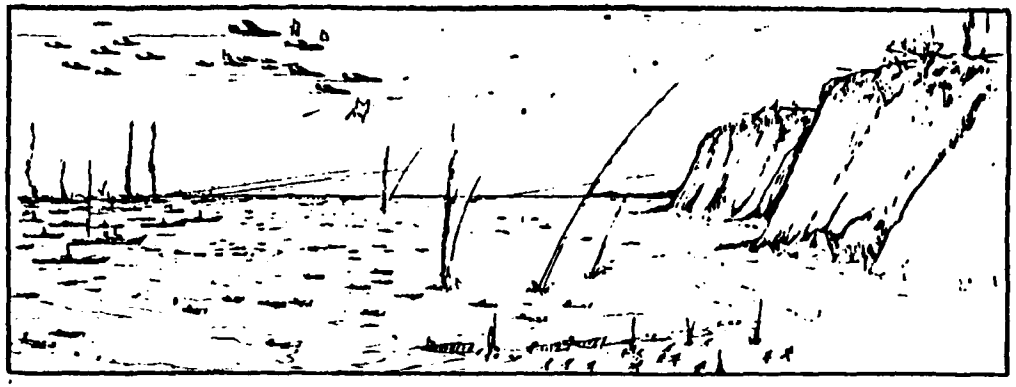


INDUSTRY

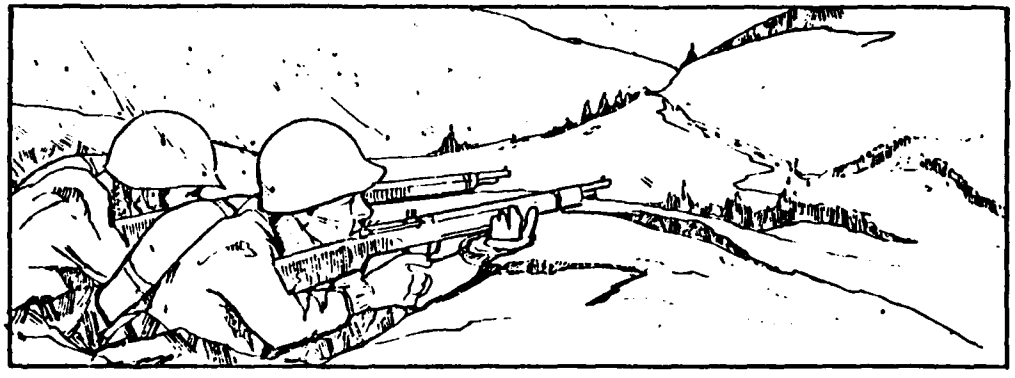
UNCLE SAM

INDUSTRY HAS SERVED NATION WELL

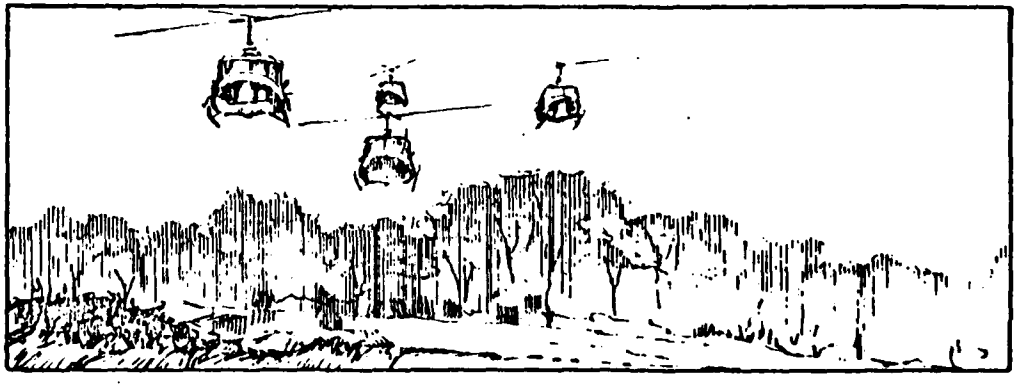
WW I II



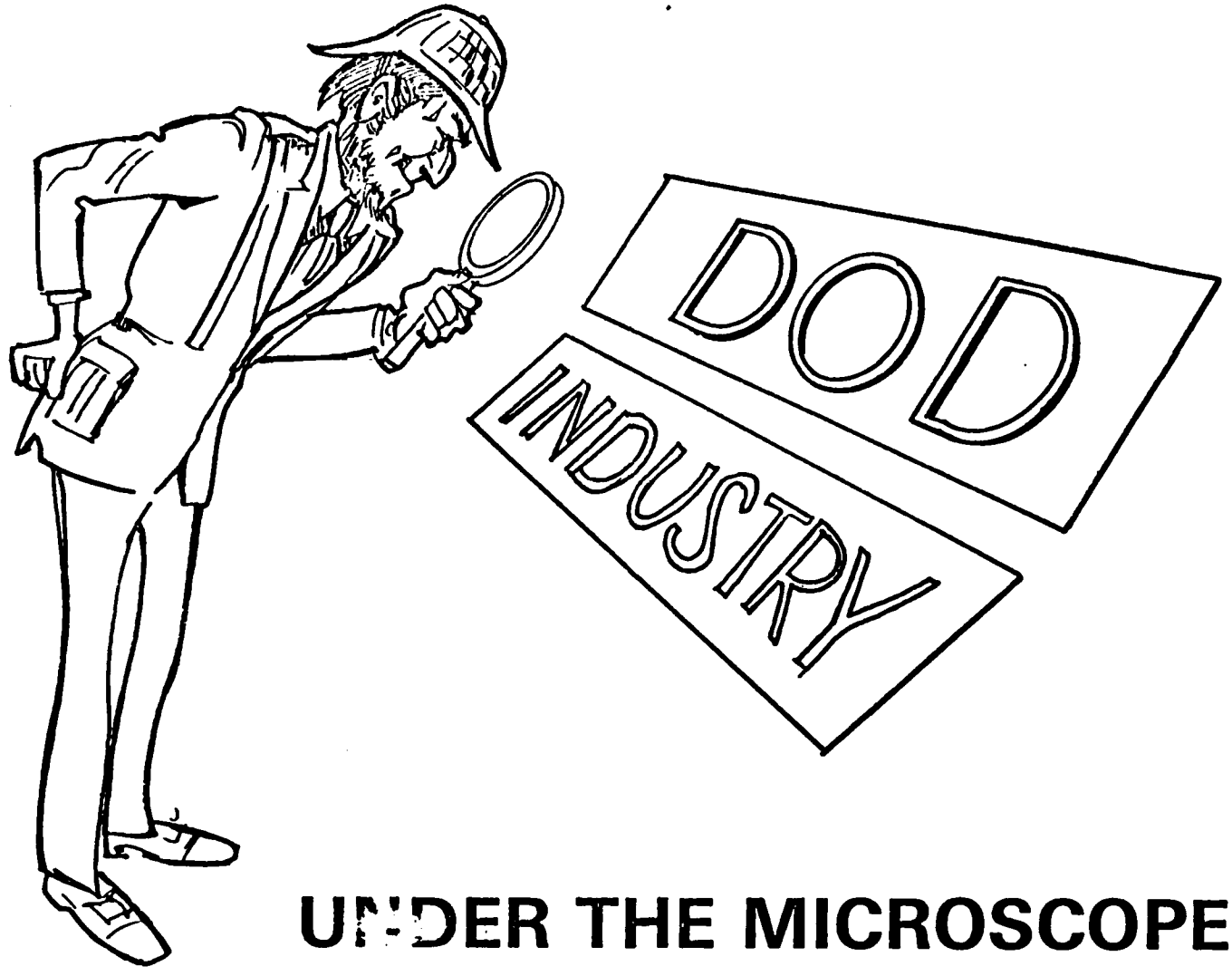
KOREA



VIETNAM

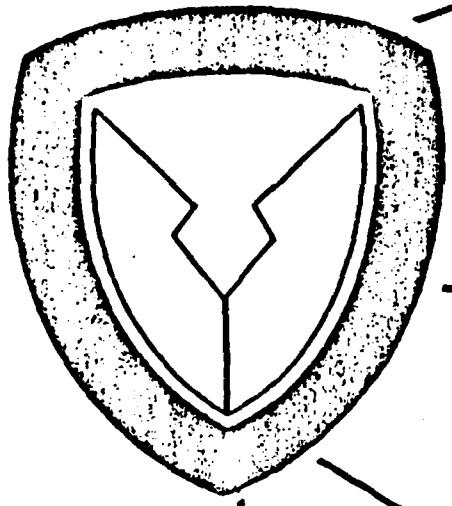


PROVIDES TOOLS TO KEEP AMERICA FREE



UNDER THE MICROSCOPE

DECISIONS



WHAT TO BUY?

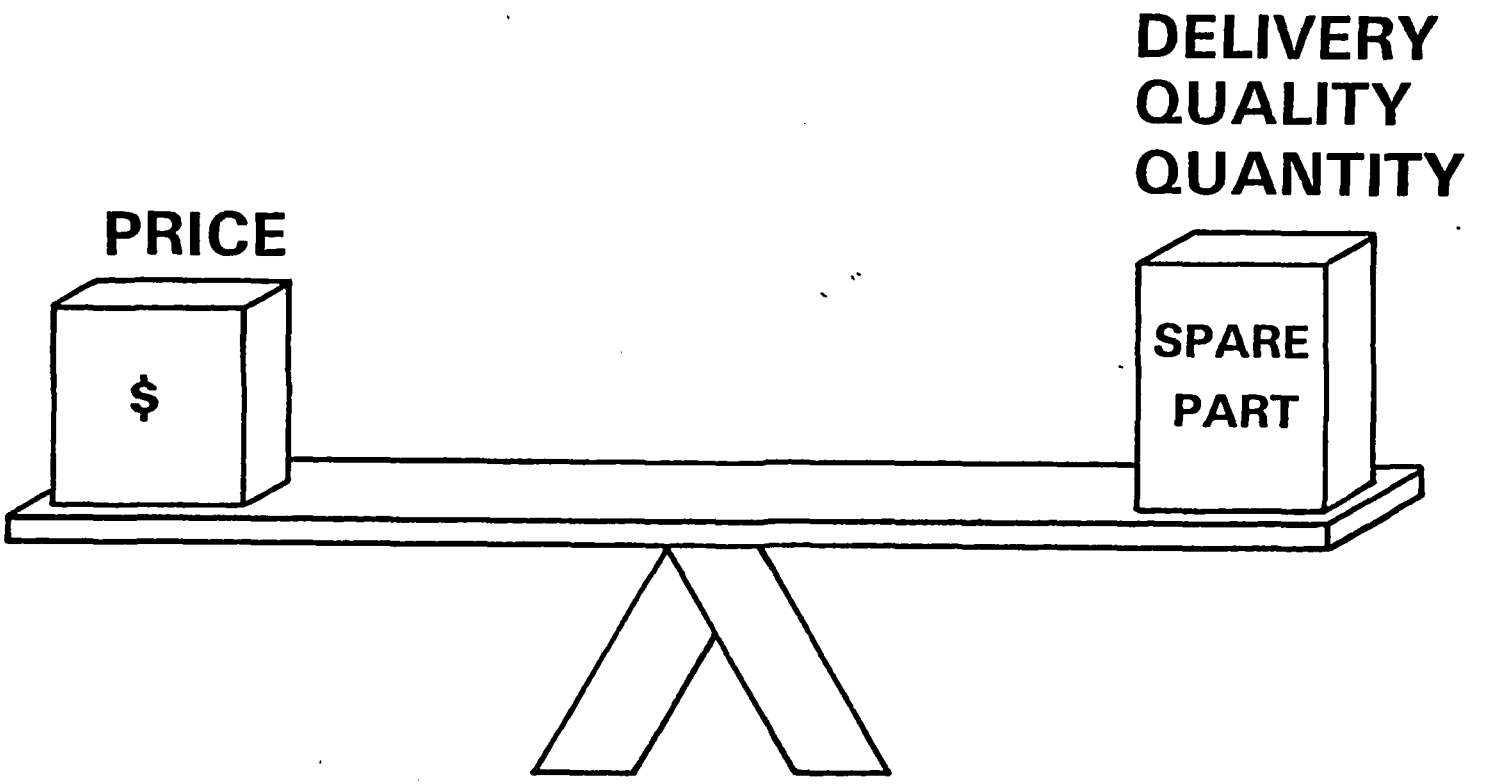
WHEN TO BUY?

WHAT IS A FAIR & REASONABLE PRICE?

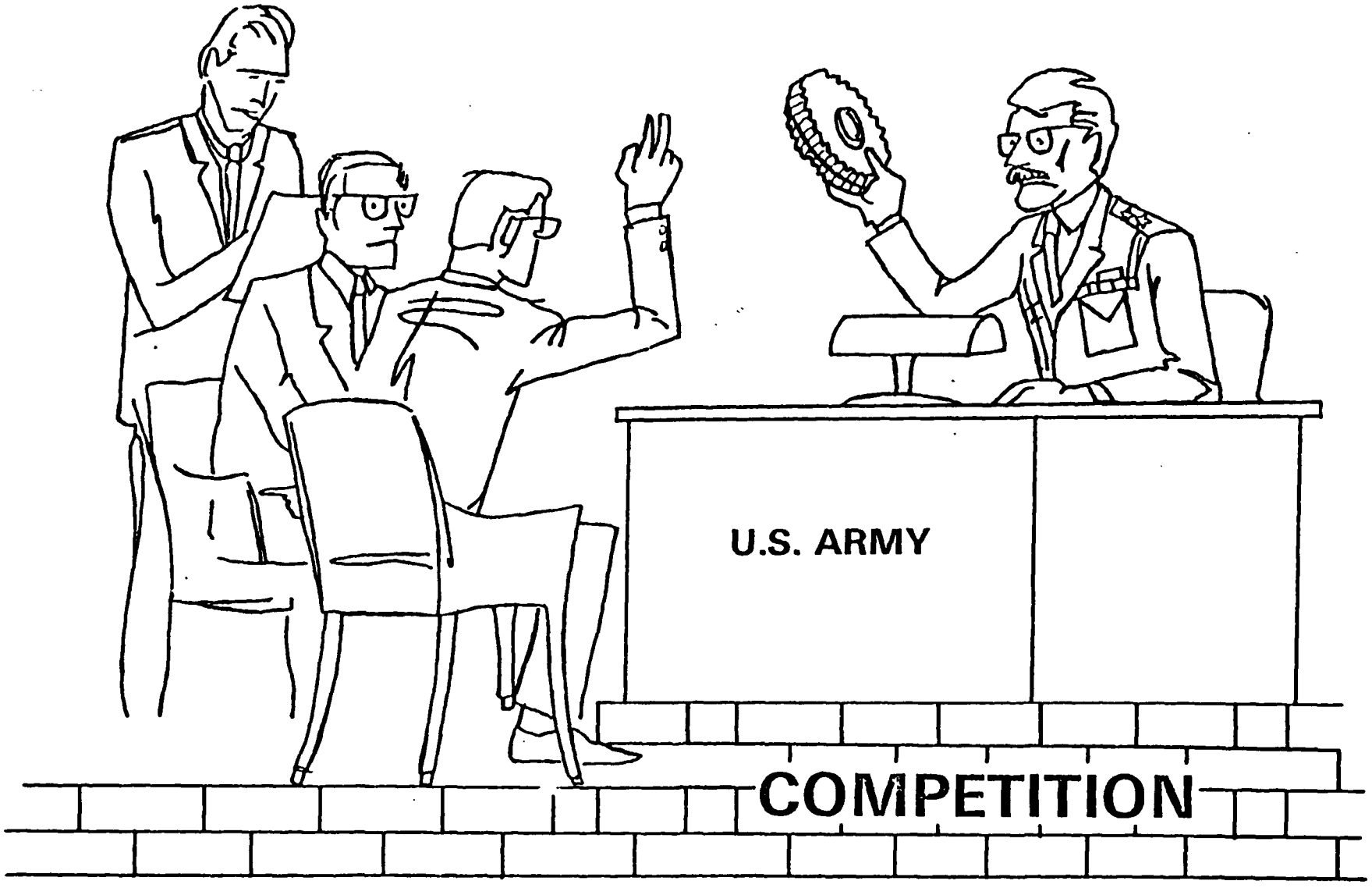
HOW TO BUY?

HOW MANY SPARES?

BALANCING ACT



ARMY FOUNDATION OF COST CONTROL



- OVER 45% $ COMPETED ON SPARE PARTS

ARMY PROGRAM

SPARE PARTS REVIEW INITIATIVES

SPRINT

SPARE PARTS REVIEW INITIATIVES

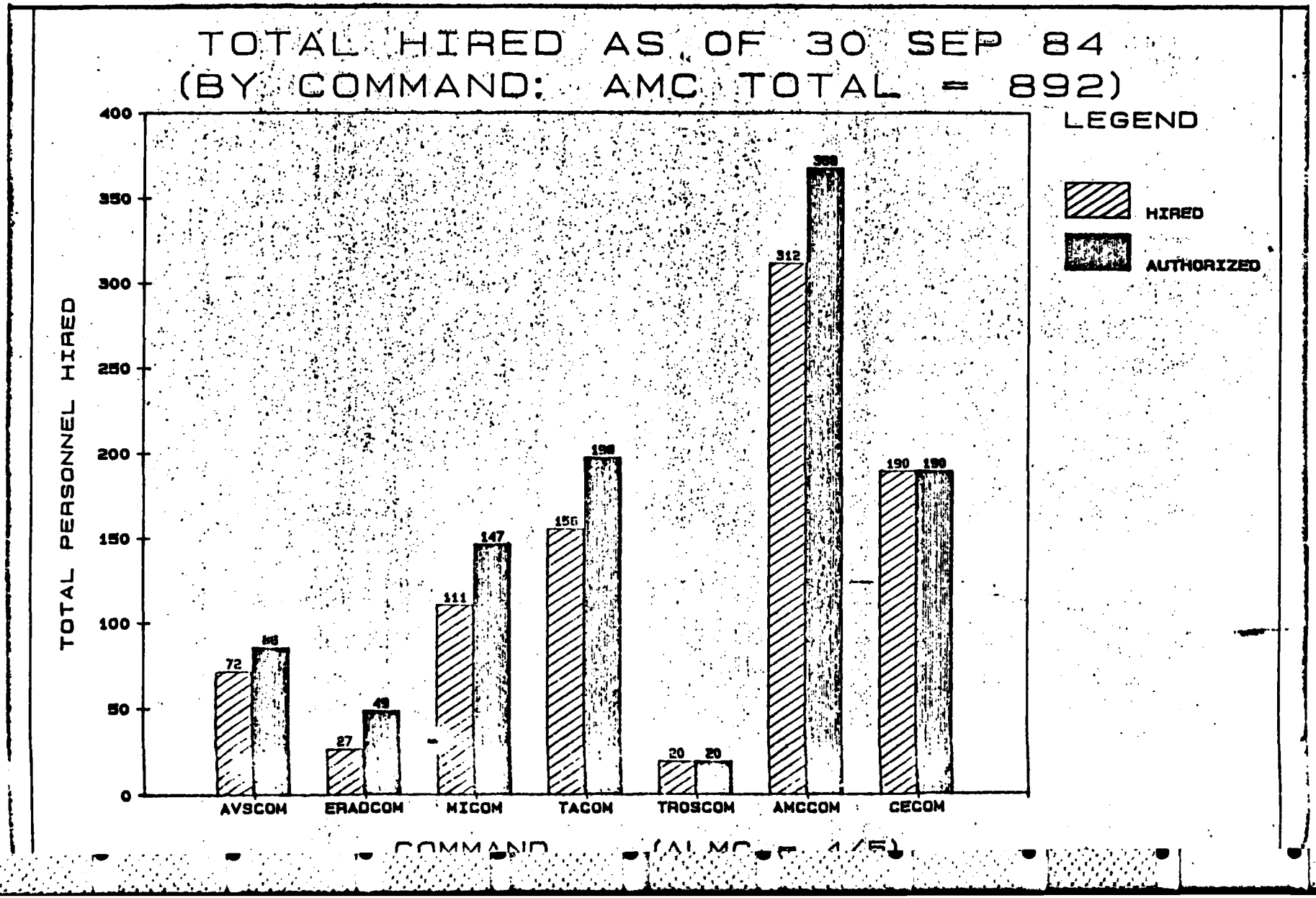
SPRINTS

1. GIVE SPARE PARTS NECESSARY ATTENTION
2. ENSURE THAT PRICES PAID ARE FAIR AND REASONABLE
3. IMPLEMENT DAR SUPPLEMENT NO. 6 "BREAKOUT"
4. ELIMINATE DISINCENTIVES ON INDUSTRY TO BREAKOUT
5. OPTIMIZE USE OF STANDARD MILITARY PARTS
6. USE VALUE ENGINEERING TO INVESTIGATE PRICES
7. ACQUIRE REPROCUREMENT DATA RESTRICTIONS FREE
8. AUTOMATE DATA REPOSITORIES

SPRINT PLAN

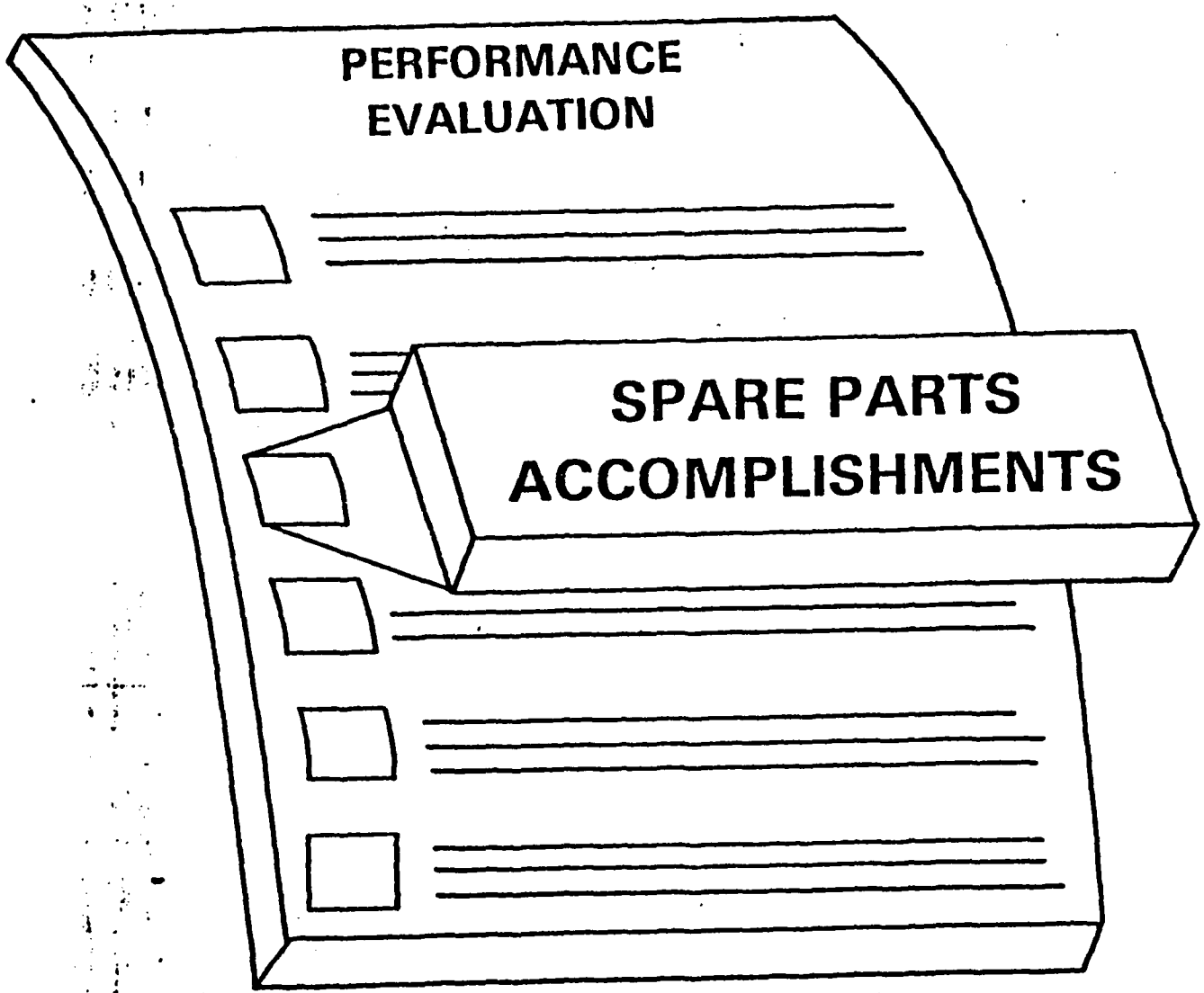
PEOPLE ORIENTED

8-4-165

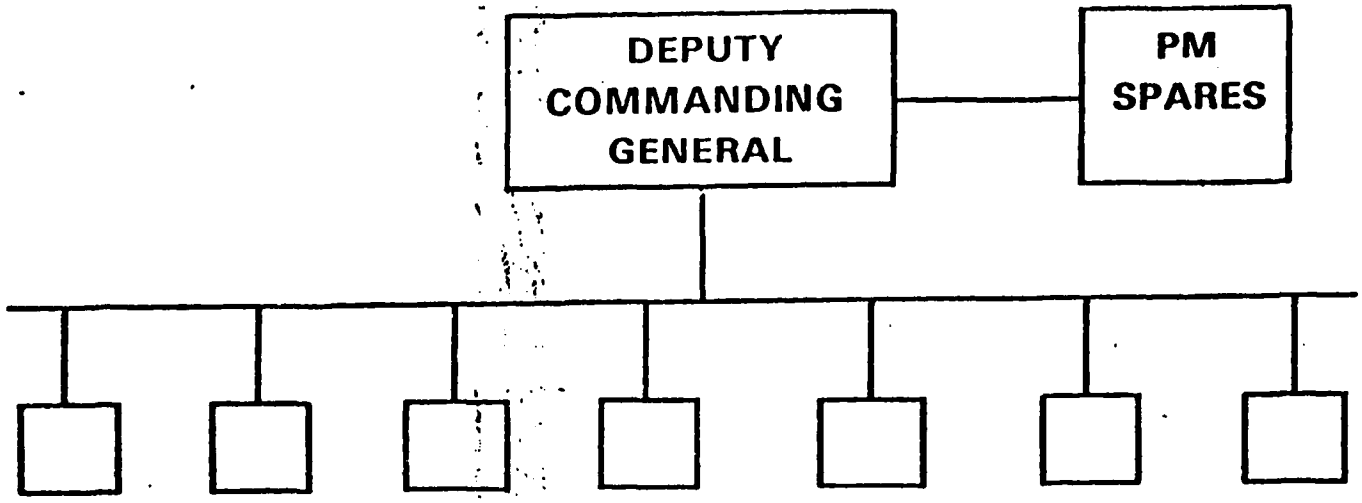

TOTAL HIRED AS OF 30 SEP 84
(BY COMMAND: AMC TOTAL = 892)
LEGEND
HIRED
AUTHORIZED
TOTAL PERSONNEL HIRED
400
350
300
250
200
150
100
50
0
72
86
27
49
111
147
156
198
20
20
312
369
190
190
AVSCOM
ERADCOM
MICOM
TACOM
TROSCOM
AMCCOM
CECOM
COMMAND

SPRINT MOTIVATION

INCLUDED IN PERFORMANCE EVALUATIONS



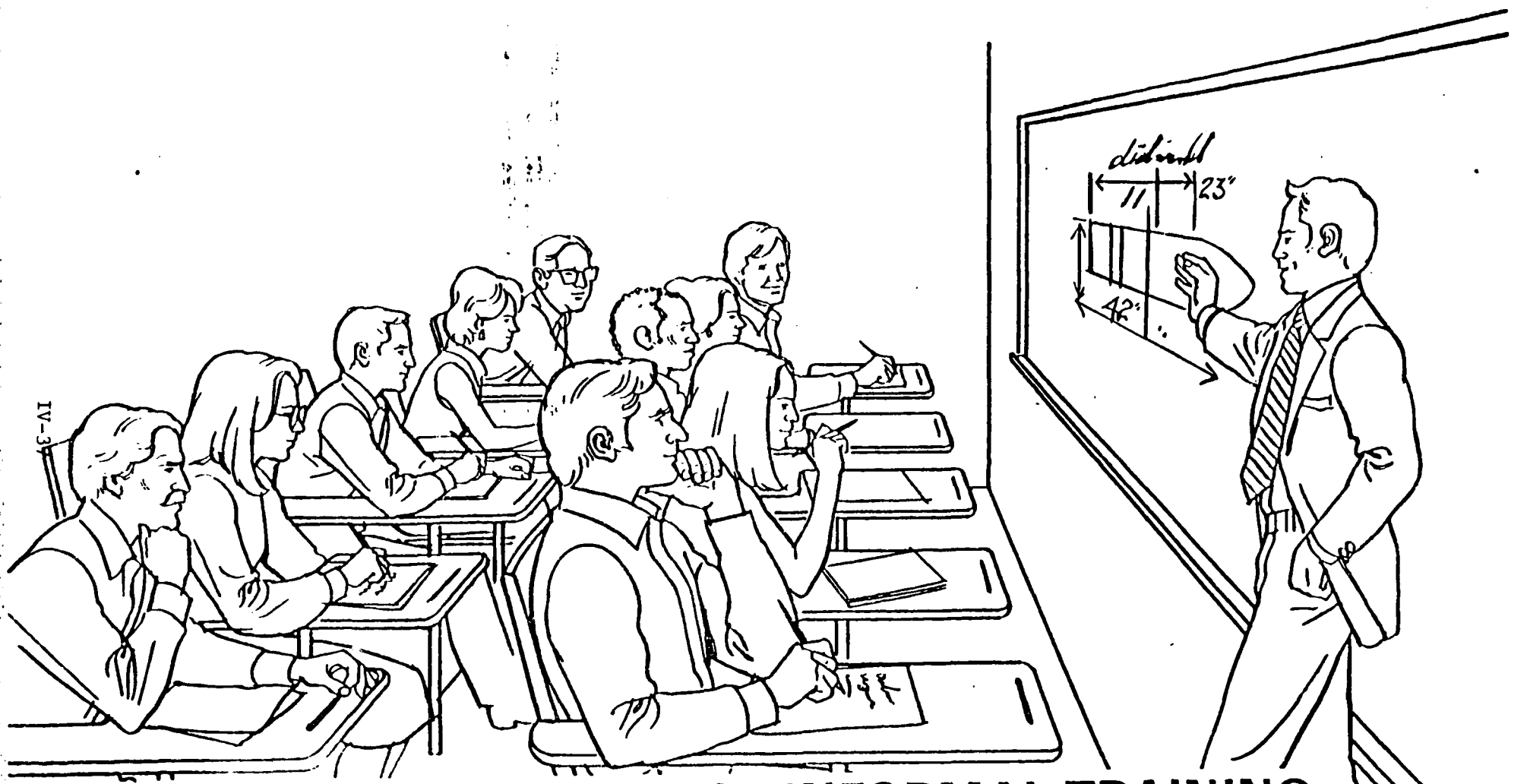
SPRINT ORGANIZATION



FUNCTIONAL ELEMENTS

- PM OFFICES ESTABLISHED AT BUYING COMMANDS AND AMC HEADQUARTERS
- FOCAL POINT FOR IMPLEMENTATION PLAN
- EFFECTIVE ORGANIZATION TOOL

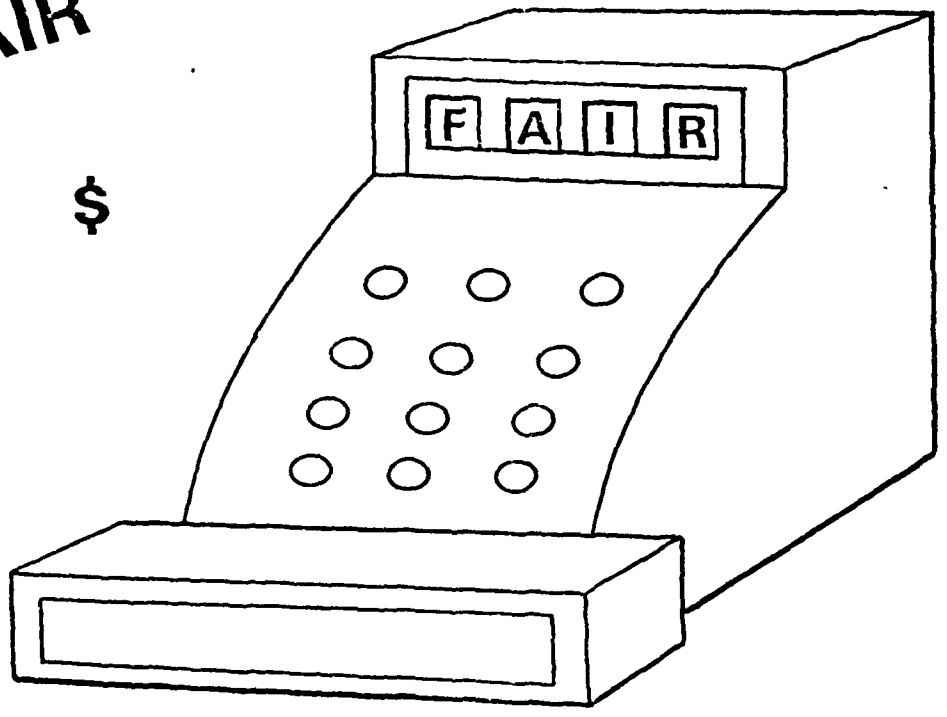
SPRINT ACTION



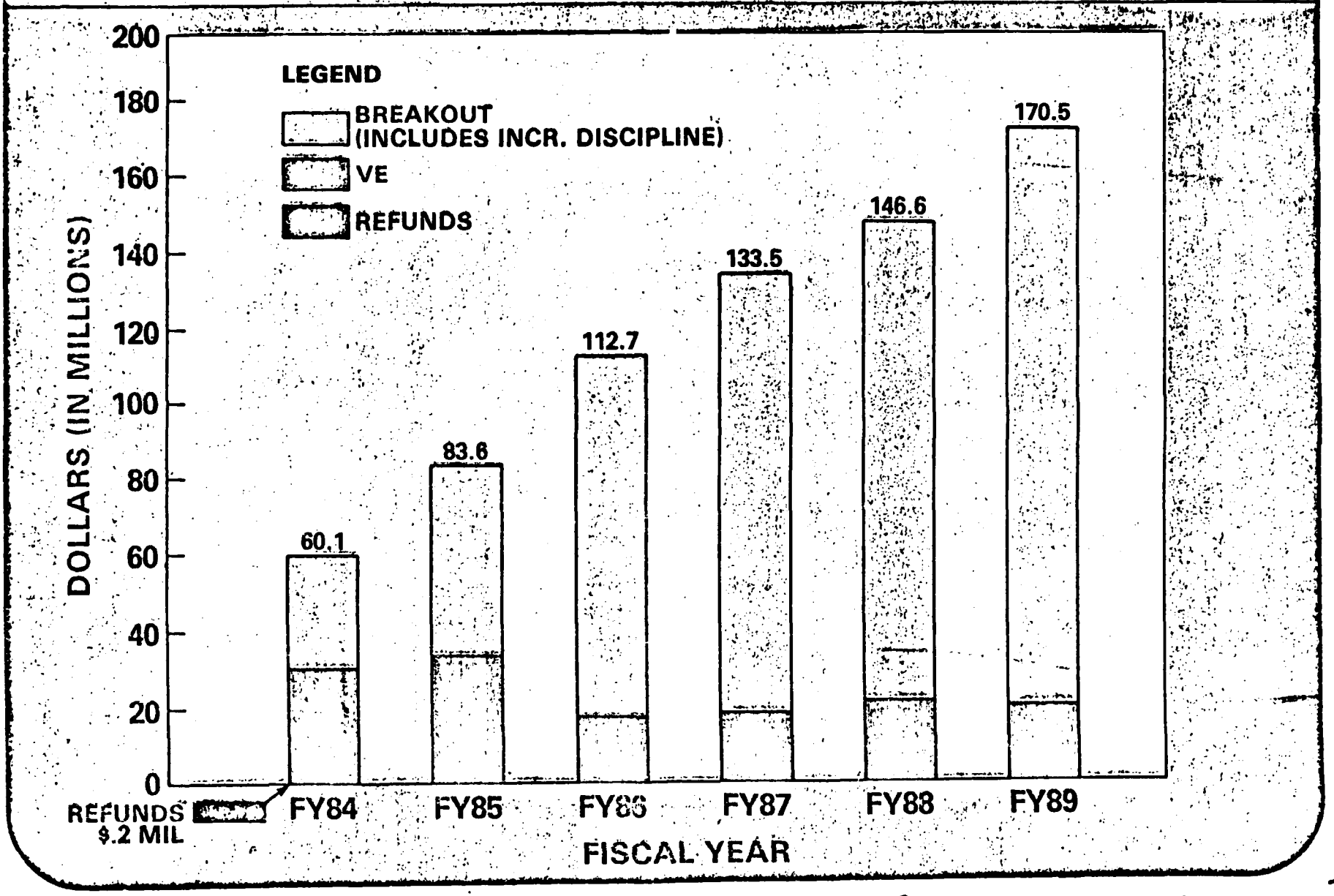
- 24,000 MAN HOURS OF INFORMAL TRAINING IN SPARES
- 40 HOUR FORMAL COURSE (OPEN TO INDUSTRY)

THE CHALLENGE

FAIR AND REASONABLE PRICES



SPRINT GROSS SAVINGS
(TOTAL ESTIMATED THRU FY 89 = $707 MIL)



SPRINT 6

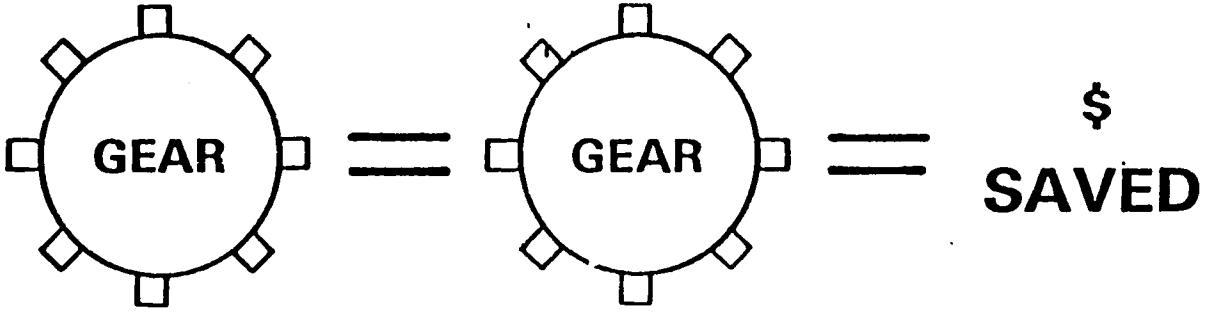
USE VALUE ENGINEERING TO INVESTIGATE PRICES

- APPLY VE TECHNIQUES
- REDUCE COST
- REDESIGN PARTS

SPRINT 5

DOD STANDARD MILITARY PARTS PROGRAM

- REDUCE COST THROUGH STANDARDIZATION



SPRINT 4

ELIMINATE DISINCENTIVES ON INDUSTRY TO BREAKOUT

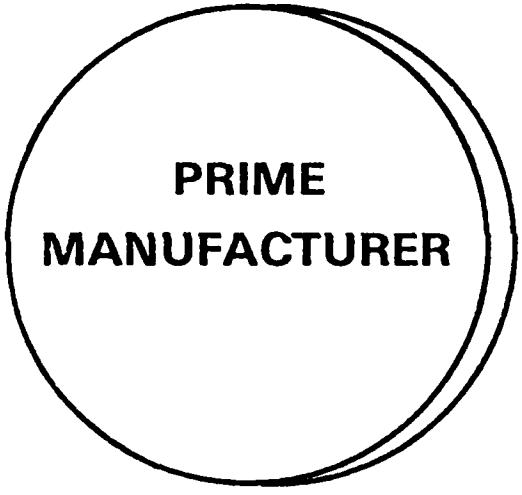
- STUDIES BEING CONDUCTED BY OSD AND DARCOM TO ENCOURAGE INDUSTRY COOPERATION TO BREAKOUT
- INDUSTRY/TRI-SERVICE SYMPOSIUM OGDEN, UTAH MAR. 84 TO FURTHER COOPERATIVE EFFORT
- PILOT TEST CONDUCTED USING BREAKOUT AS PART OF SOURCE SELECTION CRITERIA —'SCOTT' SYSTEM

SPRINT INITIATIVE

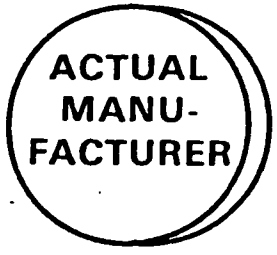
"BREAKOUT"

(DAR SUP 6)

FROM



TO

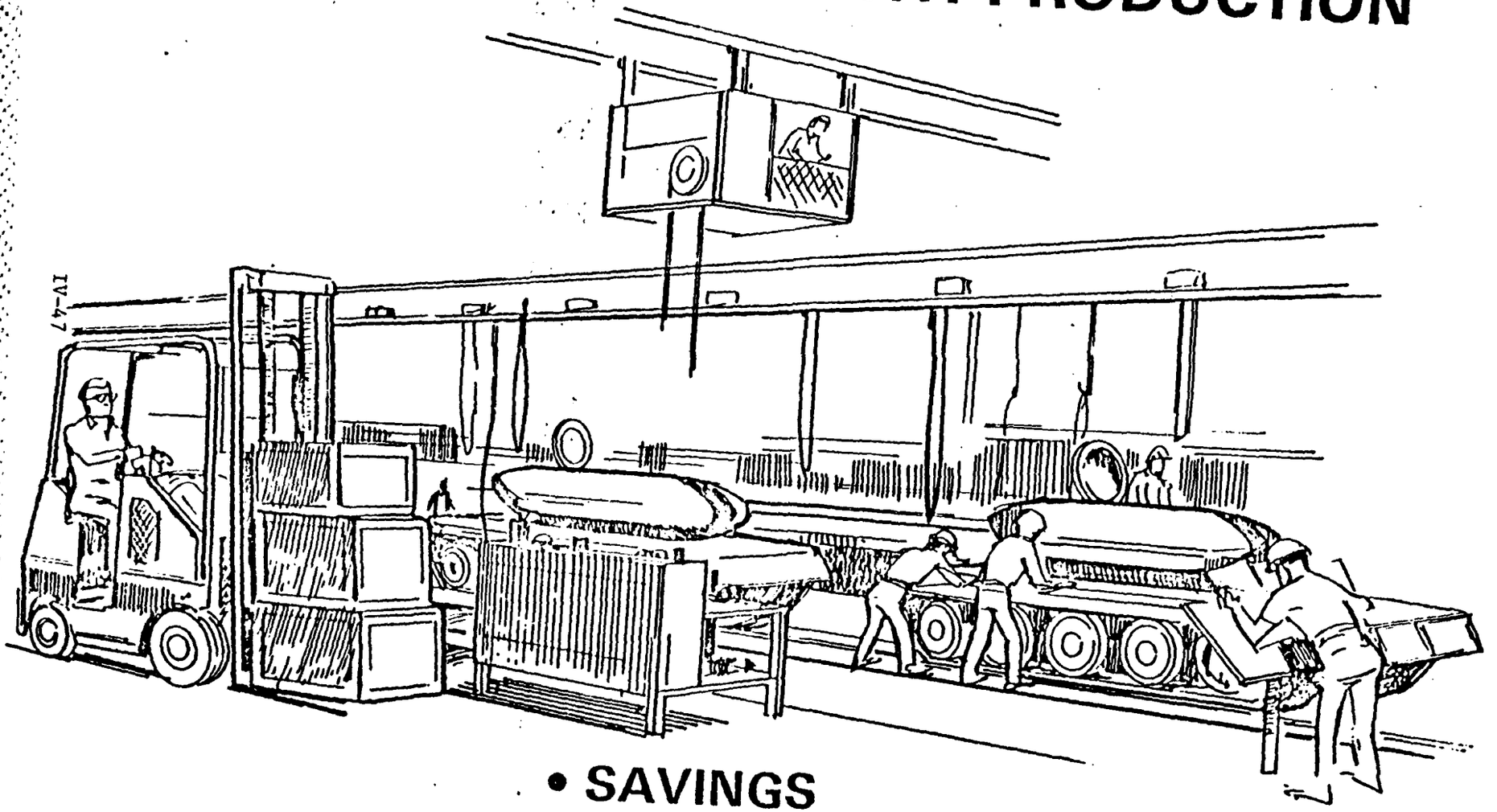


- MORE OPPORTUNITIES FOR INDUSTRY
- LOWER PRICES
- REDUCE OVERHEAD
- MAINTAIN QUALITY

28

SPRINT

INTEGRATE SPARES WITH PRODUCTION

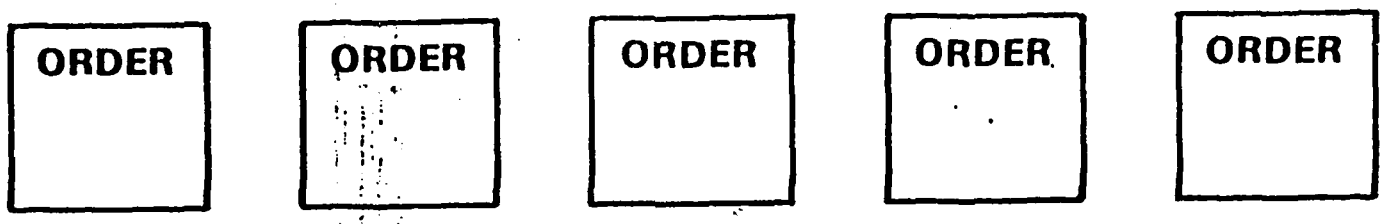


IV-47

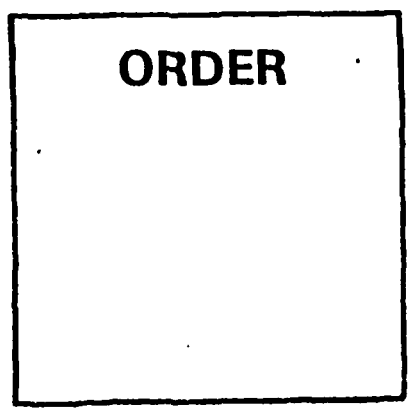
- SAVINGS
- EFFICIENCIES

SPRINT

PRE SPRINT:



POST SPRINT:



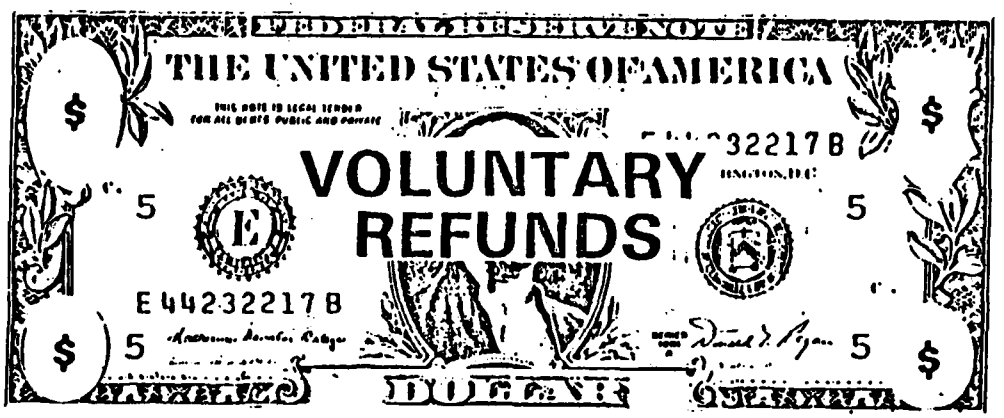
ANNUALIZE BUYS

96

SPRINT

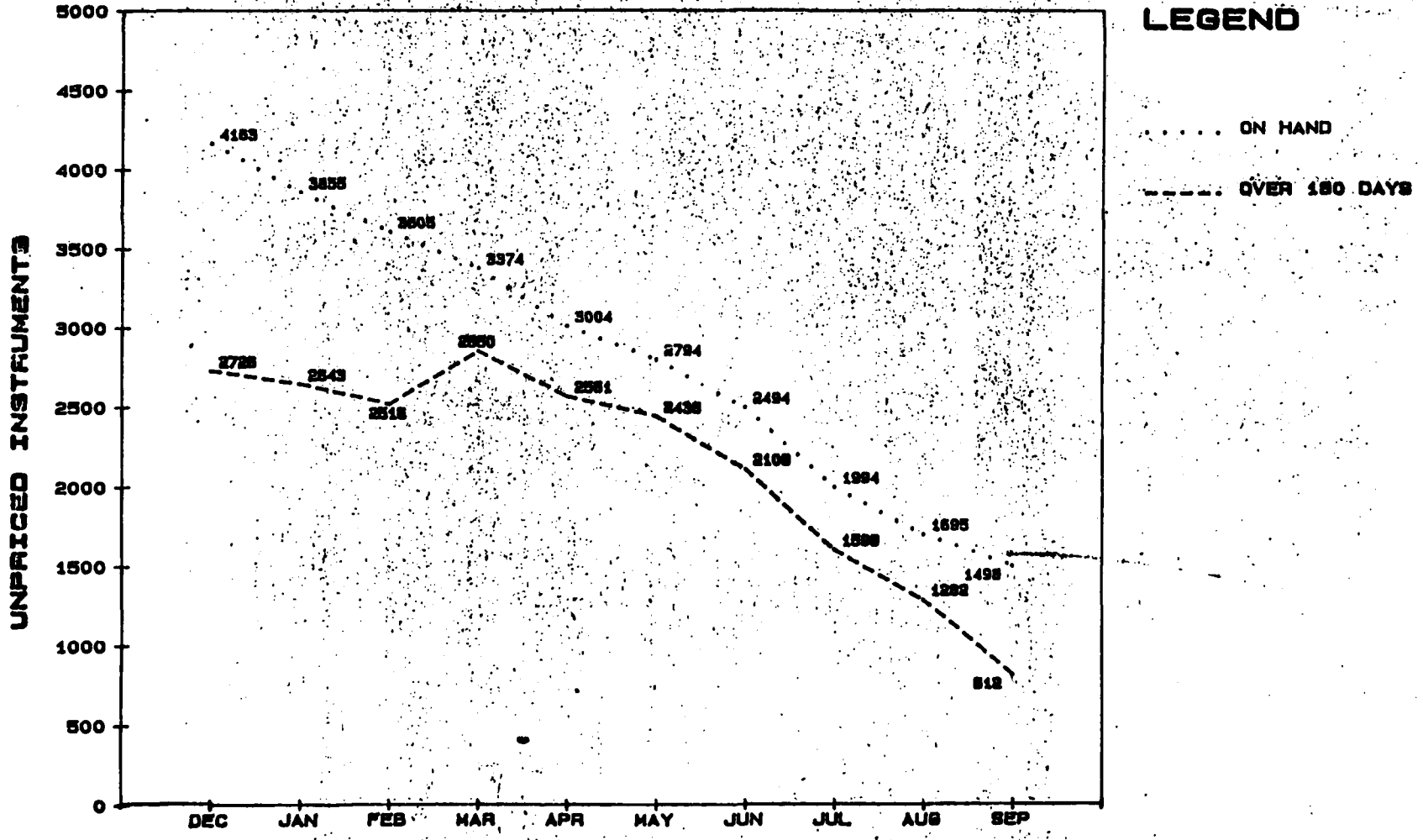
A COMMON SENSE PLAN

INDUSTRY CAN HELP

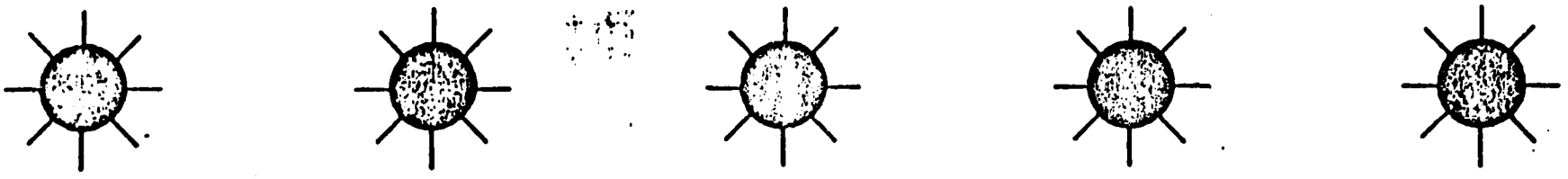


- HIGH VISIBILITY
- 211 ITEMS IDENTIFIED — PURSUING REFUNDS ($3.2M POTENTIAL)
- $368,654 RECEIVED BY ARMY

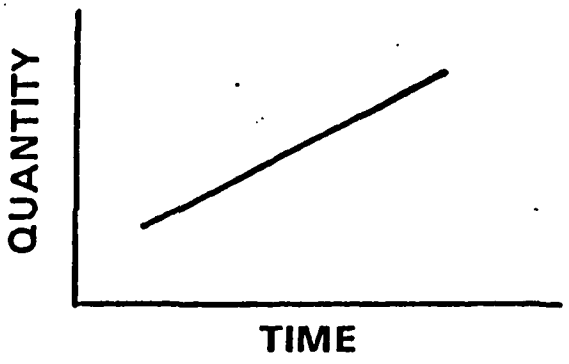
UNPRICED INSTRUMENTS
TOTAL ON HAND/OVER 180 DAYS



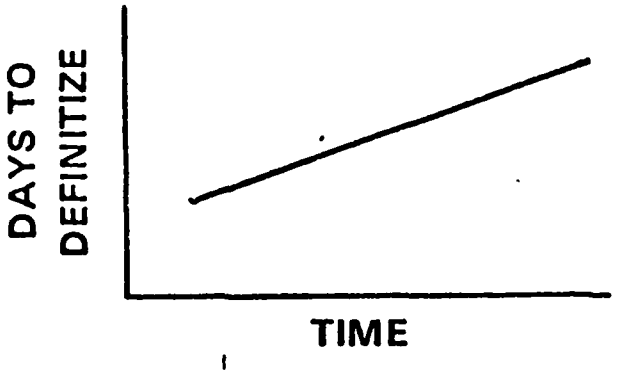
UNPRICED INSTRUMENTS



USAGE UP

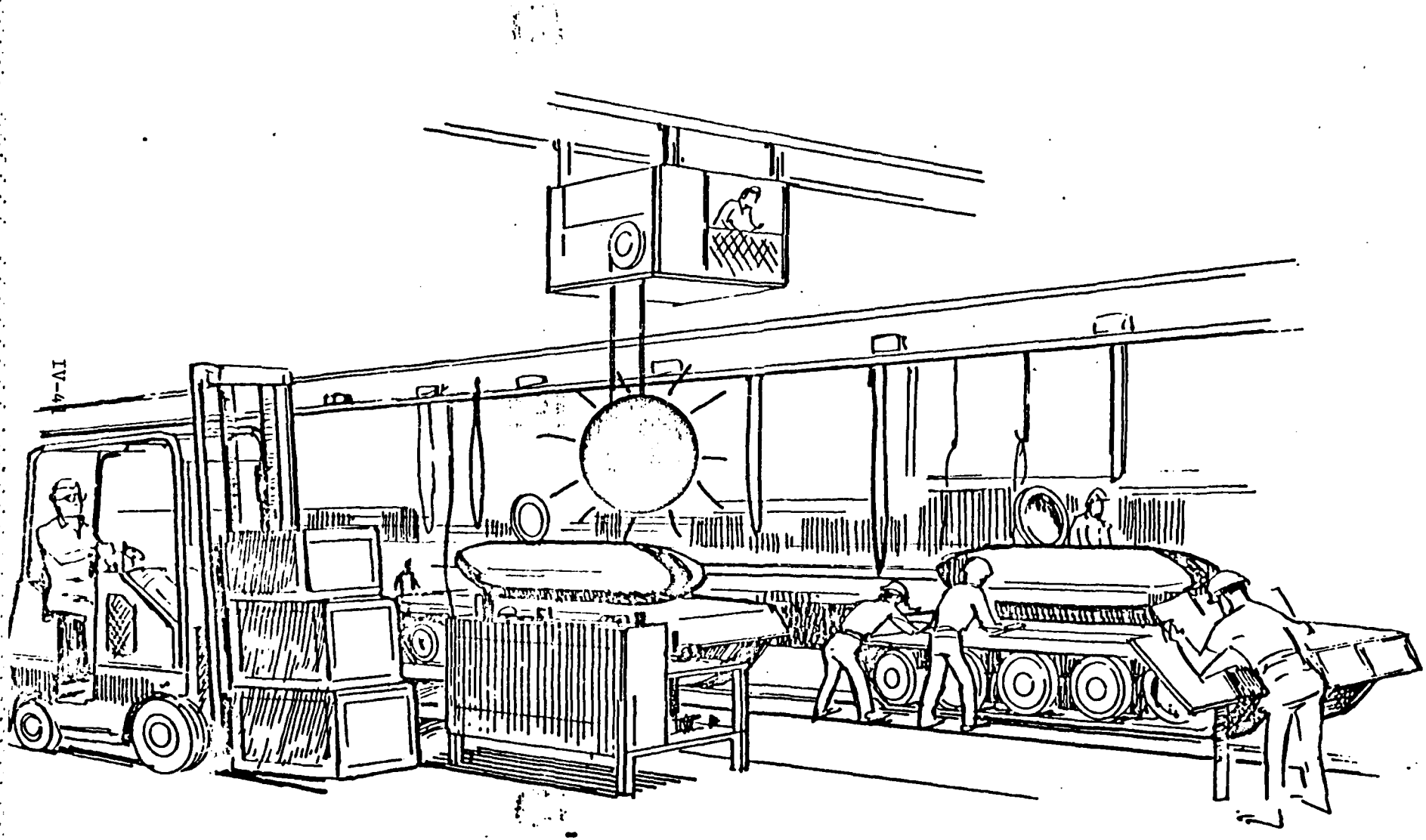


TIME TO DEFINITIZE



(NOT TO SCALE)

UNPRICED INSTRUMENTS



IV-4

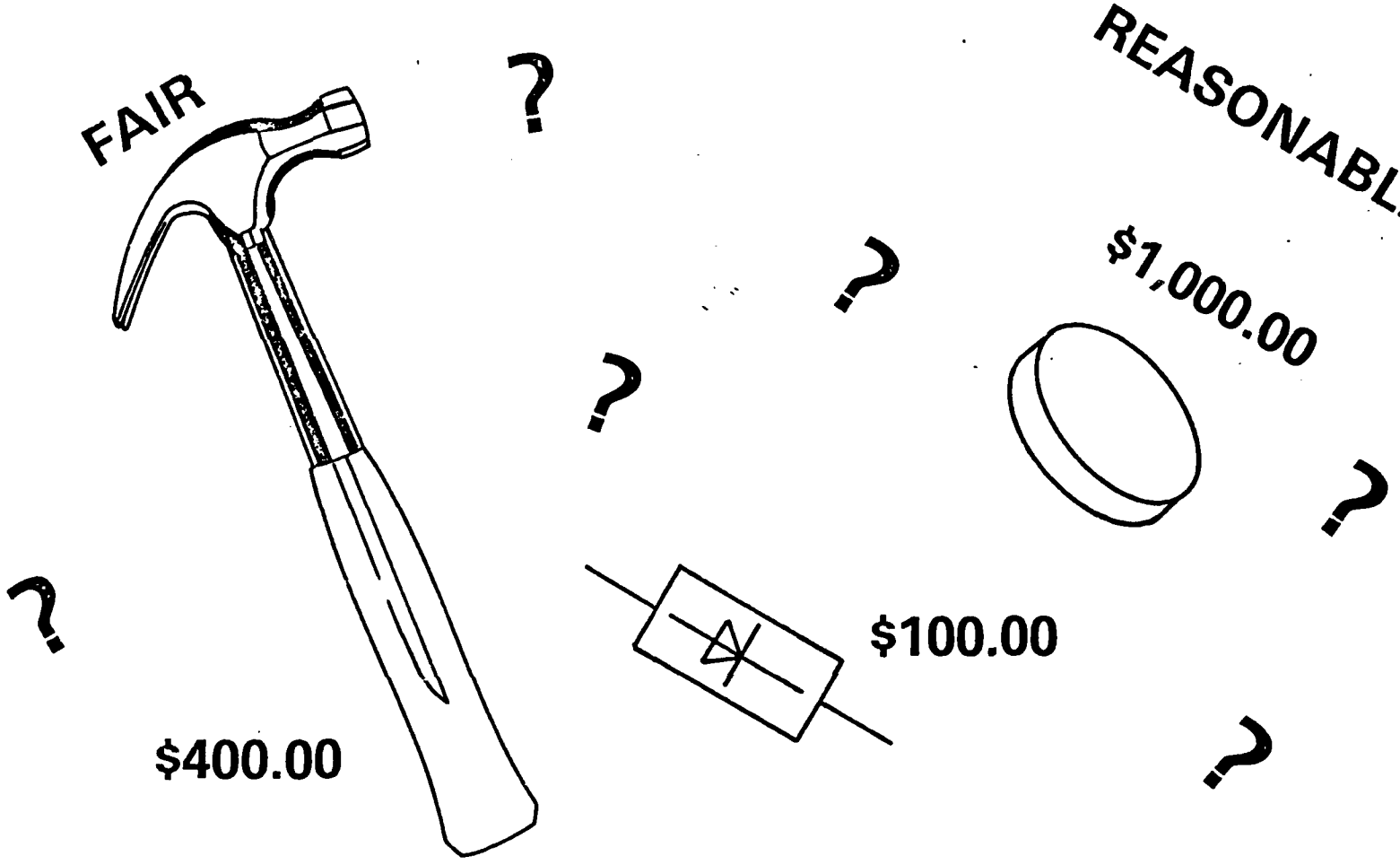
SPRINT MOTIVATION

CASH AWARDS

SPRINT SCOREBOARD AWARDS

INDUSTRY CAN HELP

AND

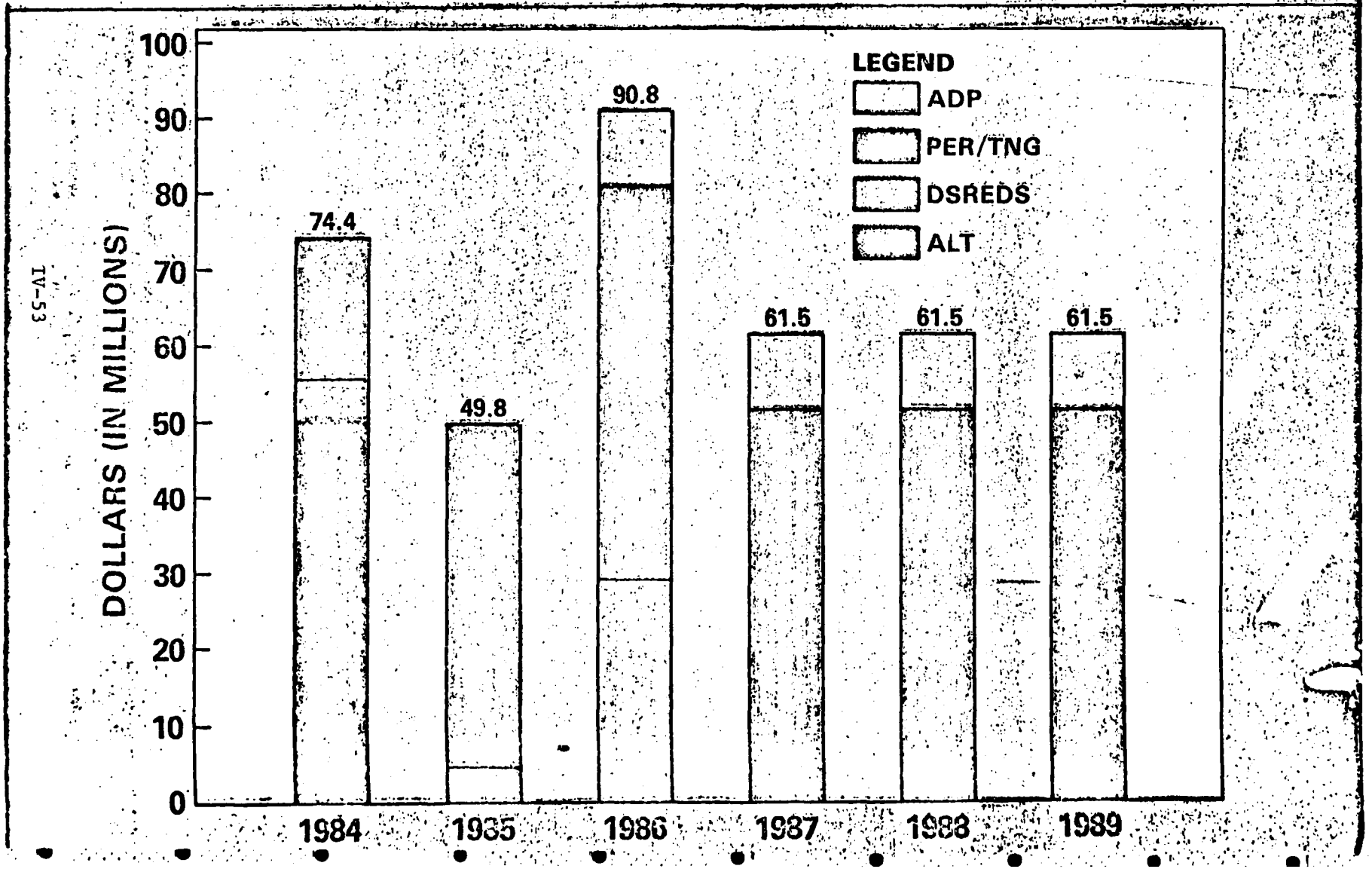


DEVISE BETTER WAYS TO REPRESENT COST

OVER NET 5YRS

JOINT OSD METHODOLOGY GROUP - CATEGORIES

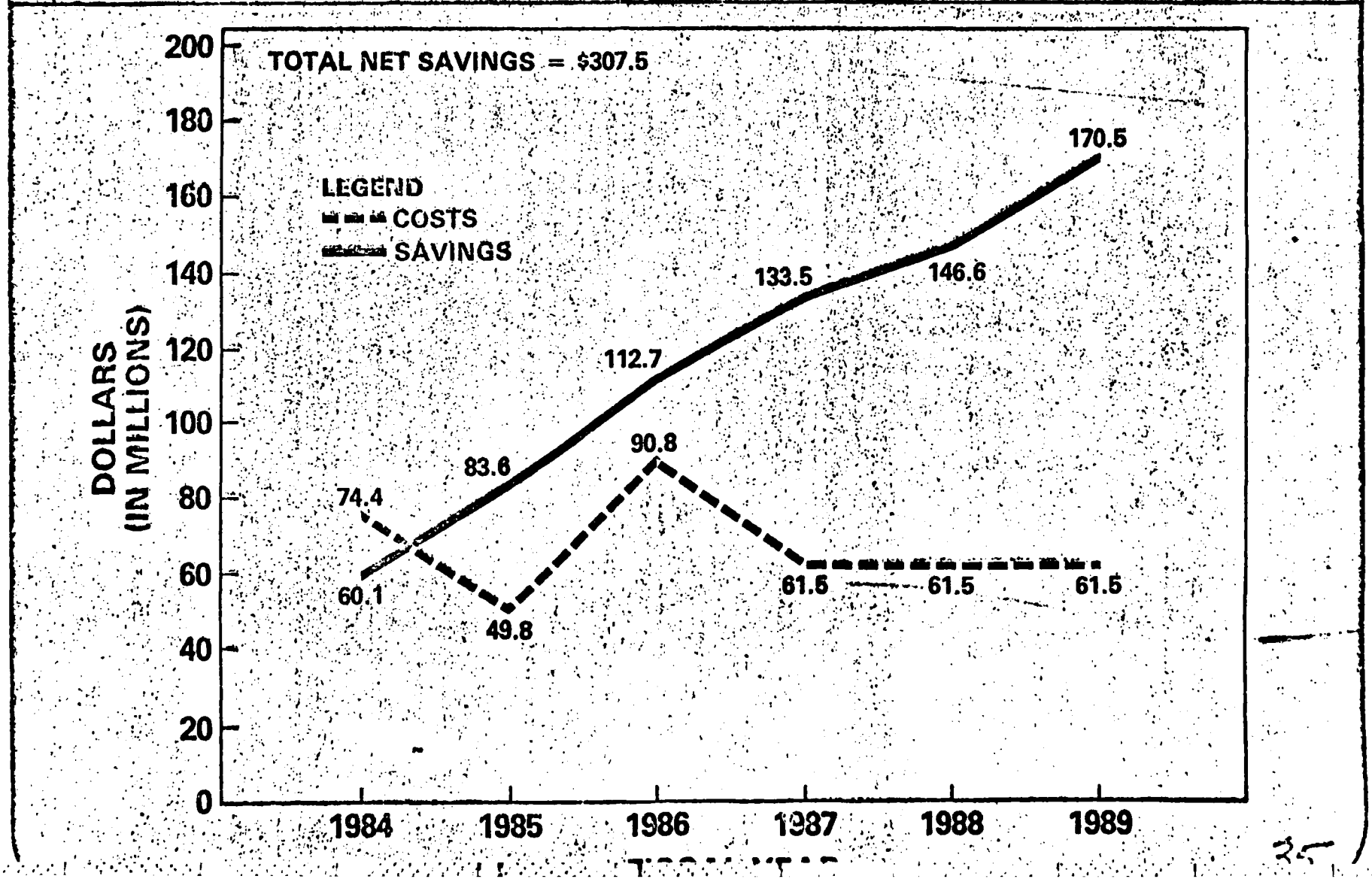
SPRINT GROSS COSTS
(TOTAL ESTIMATED THRU FY 89 = $399.5 MIL)



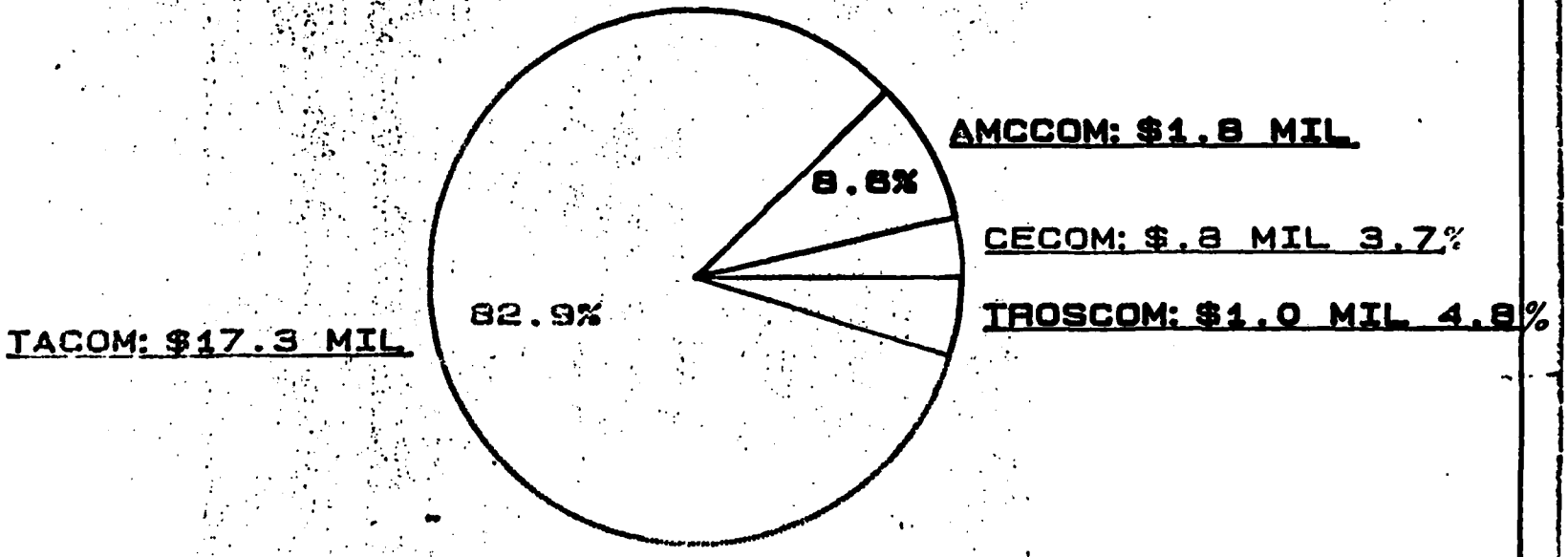
IV-53

34

SPRINT NET SAVINGS
FY 84—FY 89
(COST VS SAVINGS)



VALUE ENGINEERING SAVINGS
[6 MO ENDING 30 SEP 84]



AMC TOTAL = $20.9 MIL

SPRINT 7

ACQUIRE REPROCUREMENT DATA FREE OF RESTRICTIONS

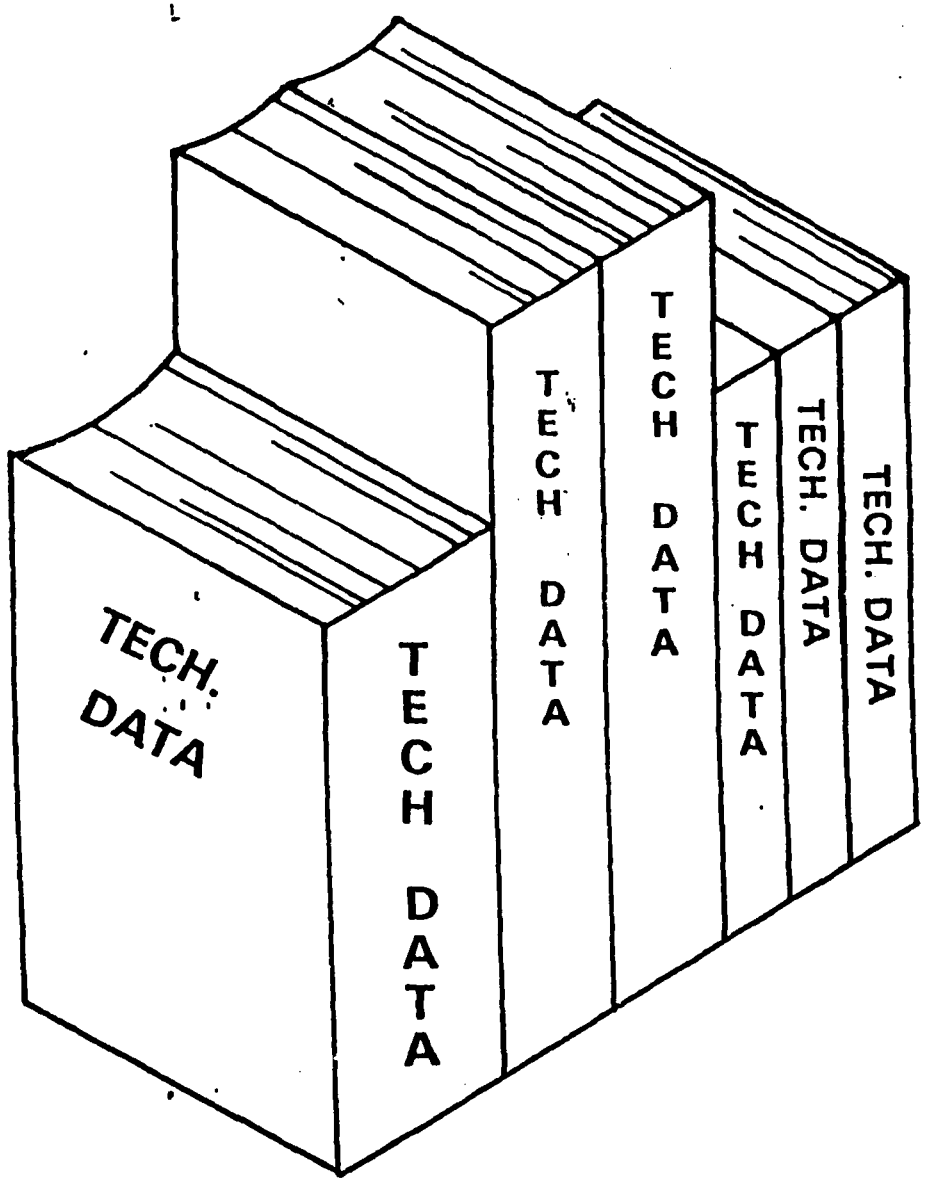
- DATA IS RESOURCE
- REQUIRED FOR REPROCUREMENT
- REVIEWS UNDERWAY
- GOAL: INCREASED COMPETITION

SPRINT 8

AUTOMATE DATA REPOSITORIES

TECHNICAL DATA

- ARMY BUYS MASSIVE AMOUNT
- 27% UNUSABLE (OSD STUDY GROUP FINDING)

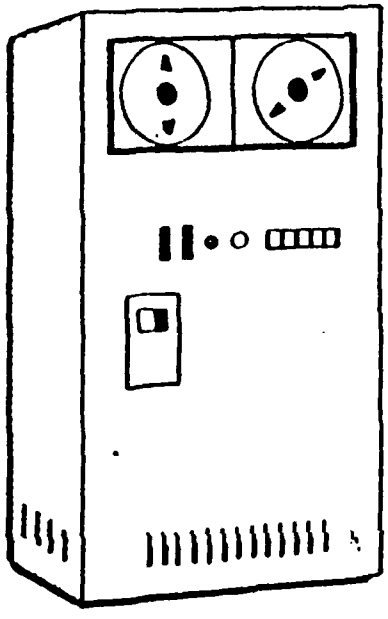


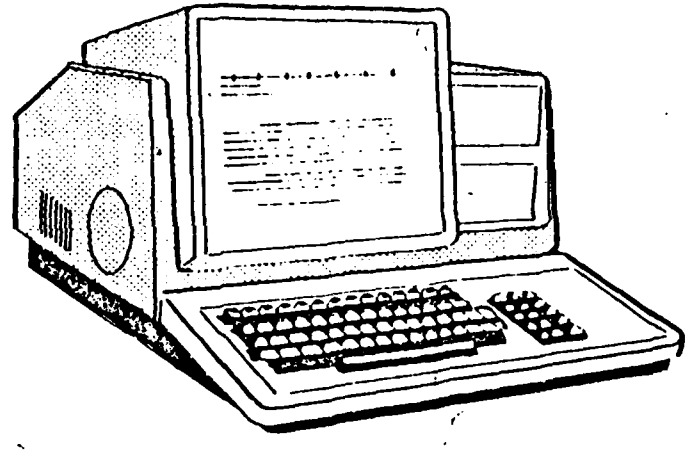
ANSWER

- DSREDS
  - DIGITAL STORAGE AND RETRIEVAL
  - STATE OF THE ART
  - OPERATIONAL FY 86

SPRINT 8

AUTOMATE DATA REPOSITORIES



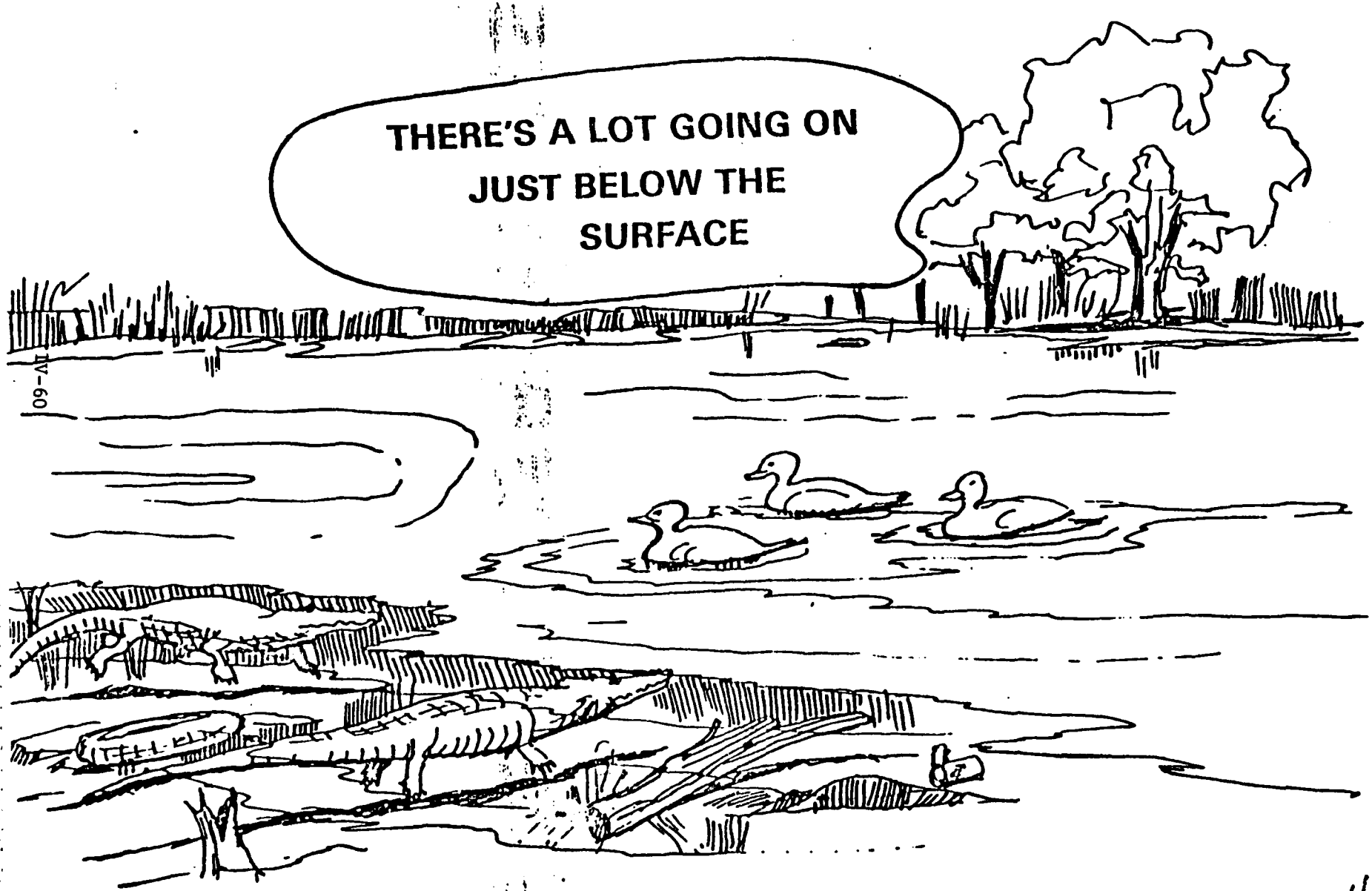


- AUTOMATED SOLICITATION PREPARATION (PADDS)
- PAPERLESS OFFICE (CASPER)
- ELECTRONIC TRANSFER
- DATA BASE MANAGEMENT (CCSS)

SUMMARY

- OVERVIEW OF SPRINT
- HUNDREDS OF ACTIONS ONGOING
- LONG RANGE PLAN
- REDUCE POTENTIAL FOR OVERPRICING

ARMY ACTIONS



IV-60

SPARE PARTS SPEECH
FOR PRESENTATION TO VALUE
ENGINEERING MEETING

1 NOVEMBER 1984

CHART 1

SUBJECT I WILL DISCUSS TODAY IS ONE THAT HAS RECEIVED MUCH
NTION LATELY. == SPARE PARTS ACQUISITION ==. SPECIFICALLY I
BE EXPLAINING THE ARMY'S EFFORTS TO REFORM THE ACQUISITION
SPARE PARTS UNDER THE SPARE PARTS REVIEW INITIATIVES. VALUE
ERING IS AN INTEGRAL PART OF THE ARMY'S PROGRAM, SO I WILL
VIDE SPECIAL ATTENTION TO THOSE ISSUES IMPACTED BY VALUE
NEERING.
ST THOUGH I WOULD LIKE TO PROVIDE SOME BACKGROUND ABOUT HOW WE
TO WHERE WE ARE TODAY.

CHART 2

YOU KNOW FROM READING THE DAILY NEWSPAPERS, THE ATTENTION
PE PARTS ACQUISITION HAS RECEIVED IN THE MEDIA HAS NOT ALWAYS
N POSITIVE. SCORES OF ARTICLES HAVE BEEN PUBLISHED DURING THE
T YEAR CRITICAL OF THE SERVICES MANAGEMENT OF SPARE PART
UREMENT, WITH SPECIFIC INSTANCES OF ALLEGED OVERPRICING AND
E GOUGING.

CHART 3

THE PROJECT MANAGER FOR SPARE PARTS AT THE ARMY MATERIEL
AND, IT CONCERNS ME THAT ALL THIS PUBLICITY REFLECTS POORLY
THE PROFESSIONALISM OF OUR HARD WORKING GOVERNMENT
OYEES. THESE PEOPLE ARE CONSCIENTIOUSLY PERFORMING THEIR
NSIBILITIES TO KEEP THE HELICOPTERS FLYING, THE TRUCKS

INNING, AND THE RADIOS TRANSMITTING. THE MILLIONS OF DOLLARS VED BY SAVINGS INITIATIVES SUCH AS VALUE ENGINEERING SIMPLY N'T GET THE PRESS THAT A $400 HAMMER GETS.

CHART 4

ALSO CONCERNS ME THAT BECAUSE OF THE ALLEGATIONS MADE ONCERNING THE PRICES WE PAY FOR SPARE PARTS, THE AMERICAN XPAYER MAY GET THE IMPRESSION THAT THE STEWARDSHIP OF THE $6.2 LLION ARMY SPARE PARTS BUDGET IS BEING TAKEN LIGHTLY.

CHART 5

ERE IS ALSO AN IMPRESSION THAT INDUSTRY IS BEING ALLOWED TO LD THE SERVICES HOSTAGE WHILE THEY CHARGE WHATEVER PRICE THEY ISH ON SPARE PARTS.

CHART 6

HILE I AM NOT HERE TODAY TO COME TO THE DEFENSE OF INDUSTRY, IT HOULD BE POINTED OUT THAT INDUSTRY ALSO HAS A LEGITIMATE CONCERN BOUT THE ADVERSE PUBLICITY AND THE IMPRESSIONS THAT THIS ADVERSE JBLICITY HAS UPON THEIR BUSINESS. INDUSTRY HAS SERVED THE ATION WELL THROUGH MANY PAST WARS. FIGHTING AND WINNING WARS ITHOUT A VIABLE INDUSTRIAL BASE IS IMPOSSIBLE, WITH THE UNITED TATES STILL THE LEADER.

CHART 7

HE ARMY HAS BEEN FORTUNATE IN THAT MOST OF THE SO CALLED "HORROR TORIES" HAVE BEEN AIR FORCE AND NAVY STORIES. WITH THIS TTENTION GIVEN TO THE AIR FORCE AND THE NAVY, ONE MAY BELIEVE HAT THE ARMY HAS GOTTEN COMPLACENT ABOUT THE POTENTIAL FOR IMILAR ADVERSE PUBLICITY. I CAN ASSURE YOU THAT THAT IS NOT THE

SE. THE ARMY REALIZES THAT WE ARE AS MUCH UNDER THE MICROSCOPE THE OTHER SERVICES AND INDUSTRY AND WE HAVE BEEN AGGRESSIVELY PLEMENTING INITIATIVES DIRECTED AT BASIC REFORM TO THE WAY THE MY MANAGES ITS SPARE PARTS MISSION. LATER I WILL EXPLAIN A FEW THESE INITIATIVES.

CHART 8

E FIRST POINT THAT I SHOULD MAKE IS THAT EQUIPPING THE UNITED ATES ARMY AND MANAGING THE OVER 191,000 ACTIVE ITEMS IN THE VENTORY INVOLVES THOUSANDS OF DECISIONS MADE ON A DAILY BASIS HUNDREDS OF CONTRACTING OFFICERS AND ACQUISITION MANAGERS P[illegible]HOUT THE ARMY MATERIEL COMMAND. ACCOMPLISHING THE AMC SSION INVOLVES JUDGEMENT, SKILL, AND DISCIPLINE.

CHART 9

LANCING DELIVERY SCHEDULES, TO INSURE THAT WE GET QUALITY, AT E REQUIRED QUANTITY, AND AT A FAIR AND REASONABLE PRICE IS DEED A HERCULEAN TASK. THE ARMY DOES HAVE A NUMBER OF TOOLS TO SIST US IN MANAGING THIS TASK.

CHART 10

IE OF THE MOST IMPORTANT OF THESE TOOLS IS COMPETITION. 45% OF IE SPARE PARTS THE ARMY PURCHASED DURING FY 83 WERE PURCHASED MPETITIVELY. WE FEEL THAT WHILE THERE IS ROOM FOR IMPROVEMENT, ARE PROUD OF OUR RECORD. DURING THE FIRST THREE QUARTERS OF 84 THAT PERCENTAGE HAS INCREASED TO 54% OF THE DOLLARS SPENT.

CHART 11

IE SECOND TOOL WE HAVE UTILIZED IS THE ESTABLISHMENT OF A SOUND AN FOR IMPLEMENTING REFORM IN THE SPARE PARTS ACQUISITION

SS. THIS PLAN IS CALLED THE SPARE PARTS REVIEW INITIATIVES, SPRINT", AND WAS DEVELOPED BY AMC HEADQUARTERS ALONG WITH BUYING COMMANDS. NOW, LESS THEN A YEAR INTO THE PLAN, ESULTS ARE BEGINNING TO SHOW. IN FACT IN A RECENT REPORT TO ESS BY THE OFFICE OF FEDERAL PROCUREMENT POLICY IN JUNE OF YEAR, THE SPRINT PLAN WAS CALLED RESPONSIVE TO OFFICE OF THE TARY OF DEFENSE INITIATIVES AND CONGRESSIONAL INTEREST. S THE KIND OF PUBLICITY WE LIKE TO HEAR.

CHART 12

SPRINT PLAN INCORPORATES ALL OF THE SECRETARY OF DEFENSE ATIVES AND RECOMMENDATIONS MADE BY THE ARMY SPARE PARTS TASK HEADED UP BY THE DEPUTY CHIEF OF STAFF FOR PROCUREMENT AND JCTION AT AMC HEADQUARTERS, MG DAVID W. STALLINGS. THE ARMY PARTS TASK GROUP COMPLETED ITS STUDY IN DECEMBER OF 1983. AS EIGHT GENERAL OBJECTIVES AS LISTED ON THE SCREEN. I WILL EACH OF THESE BRIEFLY.

CHART 13

NT ONE: GIVE SPARE PARTS THE NECESSARY ATTENTION, IS A PEOPLE NTED INITIATIVE. IT HAS TO DO WITH PROVIDING RESOURCES AND VATING EMPLOYEES TO MEET THE CHALLENGES OF ELIMINATING THE NTIAL FOR OVER PRICING.

CHART 14

THE DIRECTION OF THE SECRETARY OF DEFENSE, ADDITIONAL URCES WERE APPLIED TO THE SPARE PARTS ACQUISITION PROCESS NNING IN SEPTEMBER, 1983. WHILE AUTHORIZING 1063 ADDITIONAL CATED PERSONNEL, MANYEARS OF EFFORT WERE UTILIZED EARLY-ON IN

ROGRAM TO ALLOW NECESSARY LEAD TIME FOR HIRING THESE
TED PERSONNEL. WE HAVE HIRED 892 NEW PEOPLE TO THE SPARES
N AS OF 30 SEPTEMBER 1984. DURING THIS TIME THE REDIRECTED
RS OF EFFORT HAS BEGUN TO DECLINE AS WE INCREASE OUR HIRING
DICATED PEOPLE TO THE SPARES MISSION. AS A RELATED ITEM,
TION OF SPARES SPACES FOR VALUE ENGINEERING HAS RECENTLY
ED SIGNIFICANT ATTENTION. AT THE DIRECTION OF THE CG, AMC,
FOR VALUE ENGINEERING AS WELL AS ADDITIONAL DIRECTION
NING THE ASSIGNMENT OF VALUE ENGINEERING PERSONNEL HAVE
ESTABLISHED FOR THE MAJOR SUBORDINATE COMMANDS. THIS
TION OF RESOURCES IS CRITICAL FOR THE SUCCESS OF THE VALUE
ERING PORTION OF THE SPARE PARTS REVIEW INITIATIVES.

CHART 15

F THE BEST WAYS TO GET PEOPLES' ATTENTION IS TO HOLD THEM
NTABLE FOR THEIR ACTIONS AND TO RELATE PERFORMANCE RATINGS
ARE PARTS. A MASSIVE EFFORT TO REWRITE ALL OF THE
RMANCE EVALUATIONS OF PERSONNEL INVOLVED IN THE SPARE PARTS
N HAS BEEN ACCOMPLISHED WITHIN AMC. THIS ACTION WILL SERVE
LD THE ACQUISITION MANAGER RESPONSIBLE FOR HIS OR HER
NS IN THE SPARE PARTS ARENA.

CHART 16

ER PEOPLE AND ORGANIZATIONAL INITIATIVE HAS TO DO WITH THE
LISHMENT OF PROJECT MANAGER'S OFFICES AT THE MAJOR BUYING
NDS. EACH OF THESE OFFICES IS STAFFED WITH A LIEUTENANT
EL OR GS-15 AND SERVES AS THE FOCAL POINT FOR ALL SPRINT
NS. THIS ORGANIZATIONAL INITIATIVE HAS PROVEN TO BE AN
TIVE TOOL FOR ACCOMPLISHING THE CHALLENGING MISSION OF

MING SPARE PARTS ACQUISITION.

CHART 17

NIFICANT FINDING FROM GENERAL STALLINGS' TASK GROUP WAS THAT TRAINING LEVEL AMONG THOSE INVOLVED IN SPARE PARTS SITION WAS WOEFULLY LACKING. AS A DIRECT RESULT OF THESE NGS, AND THROUGH COMMAND EMPHASIS BOTH AT AMC AND AT THE BUYING COMMANDS, A MAJOR EFFORT TO INCREASE TRAINING WAS TAKEN. THIS INCLUDED OVER 24,000 HOURS OF LOCAL TRAINING THE DEVELOPMENT OF A SPECIAL SPARE PARTS MANAGEMENT SITION COURSE TO BE PRESENTED, ON SITE, AT OUR BUYING NDS OVER THE NEXT TWO YEARS. OUR FIRST COURSE WAS GIVEN AT ISSILE BUYING COMMAND AT HUNTSVILLE ALABAMA DURING THE LAST WEEKS IN AUGUST. AS YOU CAN SEE, WE HAVE EVEN OPENED THIS E TO INDUSTRY AND ARE ENCOURAGING THEIR PARTICIPATION.

CHART 18

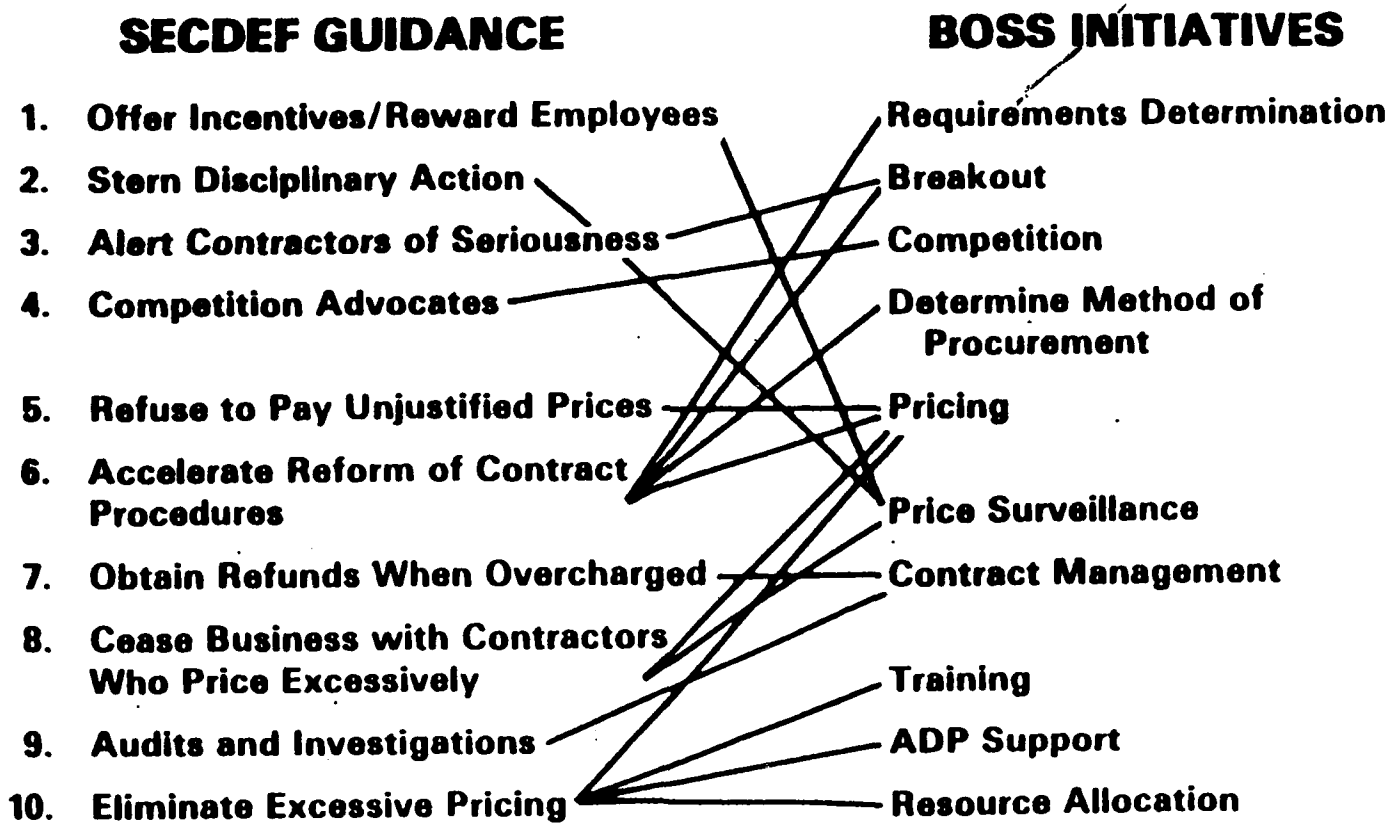
T TWO DEALS WITH THE CHALLENGE OF INSURING THAT PRICES PAID FAIR AND REASONABLE. THIS GOES TO THE VERY HEART OF THE T PROGRAM, AND THIS IS NO EASY TASK. AS I POINTED OUT OUSLY, THE BALANCING ACT THAT THE HUNDREDS OF CONTRACTING ERS HAVE TO PERFORM AS THEY BUY THE THOUSANDS OF INDIVIDUAL S, INVOLVES JUDGEMENT. AS QUANTITY, QUALITY AND URGENCY OF VARY, IT IS NOT ALWAYS EASY TO DETERMINE TO THE EXACT DOLLAR IS FAIR AND REASONABLE. ANOTHER FACTOR INVOLVED IN THE . DETERMINATION OF REASONABLENESS CONCERNS METHODS FOR NTING FOR DIFFERENT COSTS. ALLOCATION OF COST ACCORDING TO T'S INTRINSIC VALUE REMAINS ONE OF OUR GOALS.

Breakout

GOAL

Decrease Cost of Spares by Going Directly to Original Equipment Manufacturer and/or Competition

Functional Breakdown of BOSS Initiatives



Navy's Response - All Hands

Project BOSS - Over 100 Initiatives

The Challenge

- SECDEF 10 Points of 25 July 1983
- President Reagan's Memo
  11 August 1983
- SECDEF Memo of 29 August 1983
- NAVOP 086/83

BUY
OUR
SPARES
SMART

RIETY OF CHALLENGES IN THE ACQUISITION OF SPARE PARTS.

CHART 40

THAT IS AN OVERVIEW OF THE SPARE PARTS REVIEW INITIATIVES. I VE COVERED THE BACKGROUND LEADING TO THE SPARE PARTS REVIEW ITIATIVES AND EACH OF THE INDIVIDUAL INITIATIVES. THERE ARE TERALLY HUNDREDS OF ACTIONS STILL ONGOING IN THIS PROGRAM. IT THE ARMY'S BELIEF THAT THIS PROGRAM WILL INDEED RESULT IN NG TERM SOLUTIONS TO MANY OF THE MORE PRESSING CHALLENGES IN ARE PARTS ACQUISITION. OUR PEOPLE ORIENTED PROGRAM WILL GO FAR RE'UCE THE POTENTIAL FOR OVERPRICING.

LUE ENGINEERING, AS YOU CAN SEE, IS A VITAL ELEMENT IN SPRINT. CH IS AT STAKE WITH THIS PROGRAM. THE CREDIBILITY OF THE MY'S MANGEMENT OF SPARE PARTS DOLLARS AS WELL AS ITS ABILITY TO NTROL COSTS ARE BEING TESTED. RESULTS ARE WHAT COUNT.

CHART 41

WOULD LIKE TO CLOSE WITH THIS ONE THOUGHT. THE ARMY IS ESENTING ITS EFFORTS IN THE REFORM OF SPARE PARTS AS EMULATING E WAYS OF THE DUCK. THAT IS, ON THE SURFACE WE APPEAR TO BE IDING SMOOTHLY THROUGH THE TROUBLED WATERS OF SPARE PARTS QUISITION. HOWEVER, I HOPE THAT YOU CAN SEE THAT IN DEED, JUST LOW THE SURFACE WE ARE PADDLING LIKE HELL. VALUE ENGINEERING A KEY PADDLE TO KEEP US ABOVE WATER AND OUT OF THE ALLIGATORS WS. ALTHOUGH IT HAS BEEN A YEAR SINCE INITIATIVES WERE BLISHED, WE HAVE JUST GOTTEN STARTED. WITH YOUR HARD WORK, WE LL ACHIEVE THE AMBITIOUS GOALS OF THE SPARE PARTS REVIEW IIATIATIVES.

IAT ARE YOUR QUESTIONS?

IGHTS TO DATA, ALONG WITH MANY OTHER ASPECTS OF REVIEWING ITEMS OR BREAKOUT, ARE NOW BEING CONDUCTED. DURING THE NEXT TWO EARS, ALL ACTIVE ITEMS WILL BE REVIEWED TO SEE IF THERE ARE GAPS N DATA RIGHTS THAT PREVENT THAT ITEM FROM BEING BROKEN OUT TO HE ACTUAL MANUFACTURER OR TO OPEN COMPETITION.

CHART 38

HE LAST SPRINT ALSO DEALS WITH THE MANAGEMENT OF DATA. A RECENT SD STUDY REVEALED THAT 27% OF THE DATA OWNED BY THE GOVERNMENT AS UNUSABLE. THE REASONS ARE MANY, BUT THE STUDY DID POINT OUT HE NECESSITY FOR UPDATING THE MANAGEMENT OF DATA WITHIN THE RMY. THE ARMY HAS INITIATED ACTIONS TO INSTALL A STATE OF THE RT SYSTEM OF DIGITIZING DRAWINGS AND OTHER PERTINENT ENGINEERING DATA AND MAKING THIS DATA AVAILABLE TO THOSE IN THE ACQUISITION ROCESS. BY FY 86 OUR "DSREDS" SYSTEM WILL BE OPERATIONAL, AND BY Y 89 IT WILL BE COMPLETELY INSTALLED IN ALL OUR BUYING OMMANDS.

- FY 86 AT MICOM
- DIGITAL STORAGE AND RETRIEVAL ENGINEERING DATA SYSTEM

CHART 39

HILE WE ARE ON THE SUBJECT, A VARIETY OF OTHER AUTOMATION INITIATIVES ARE ALSO UNDERWAY WHICH RELATE TO SPARE PARTS ACQUISITION. THESE INCLUDE ELECTRONIC TRANSFER OF INFORMATION BETWEEN THE ARMY AND CONTRACTORS, MOVING TO PAPERLESS PROCUREMENTS, AND AUTOMATING THE SOLICITATION PROCESS. IN THIS TIME OF EVER INCREASING STATE-OF- THE-ART ADVANCES IN AUTOMATION, THE ARMY IS STRIVING TO USE ALL ADVANCED TECHNIQUES TO SOLVE THE

BOTTOM LINE IS THAT THE ARMY IS ON RECORD FOR PROJECTED SAVINGS OF $707 MIL.

CHART 34

AS THIS CHART SHOWS, THE ARMY HAS PROJECTED COSTS OF $400 MILLION. THESE COSTS INCLUDE PERSONNEL, ADP, DSREDS (A COMPUTER SYSTEM FOR DIGITIZING STORING AND RETRIEVING TECHNICAL DATA) AND INCREASED COSTS OF HAVING ITEMS IN THE INVENTORY. THE COSTS REQUIRED TO IMPLEMENT THE SECRETARY OF DEFENSE INITIATIVES AND OTHER ARMY INITITAIVES ARE INCLUDED.

CHART 35

THE BOTTOM LINE SAVINGS OF $307 MIL. IS ONLY AN ESTIMATE. ACTUALLY WE ARE DOING PRETTY WELL.

CHART 36

DURING THE SECOND QUARTER OF FY 84, THE PROGRAM MANAGERS FOR SPARE PARTS, USING DATA OBTAINED FROM THE VALUE ENGINEERING COMMUNITY, REPORTED SAVINGS OF NEARLY $21 MIL. IN SPARE PARTS ALONE.

CHART 37

THE NEXT SPRINT DEALS WITH A VITAL RESOURCE IN THE ARMY, THAT OF DATA. SPECIFICALLY, THE ARMY NEEDS DATA ON THE PARTS IT BUYS SO THAT WE CAN TURN AROUND AND FIND THE BEST REPROCUREMENT BUYS. FOR EXAMPLE, WHEN AN ITEM IS PURCHASED, DRAWINGS ARE PROVIDED BY THE CONTRACTOR SHOWING DIFFERENT LEVELS OF SPECIFICATIONS AND DETAIL. TO COMPETE AN ITEM, THE ARMY MUST HAVE THE RIGHTS TO TECHNICAL DATA FREE OF RESTRICTIONS. A MASSIVE REVIEW OF THE

THE PERFORMANCE AND QUALITY REQUIREMENTS ALREADY EXISTED IN THE DOD SYSTEM. DOD HAS HAD A PROGRAM WHICH REQUIRES A THOROUGH REVIEW OF THE INVENTORY FOR QUITE SOMETIME. UNFORTUNATELY, BEFORE THE SPARE PARTS INITIATIVES ONLY 48% OF THOSE CONTRACTS SUITABLE FOR THIS PROGRAM WERE UTILIZING THE PROGRAM. THAT NUMBER HAS CHANGED. NOW 100% OF ALL APPROPRIATE CONTRACTS HAVE THIS STANDARD MILITARY CLAUSE.

CHART 32

AND NOW LADIES AND GENTLEMEN WE ARRIVE AT THE PART OF SPRINT YOU HAVE ALL BEEN WAITING FOR. SPRINT 6 DEALS WITH APPLYING ALREADY PROVEN VALUE ENGINEERING TECHNIQUES OF FUNCTIONAL ANALYSIS TO SPARE PARTS TO ACHIEVE THE REQUIRED FUNCTIONS AT THE LOWEST TOTAL COSTS. I CERTAINLY DON'T HAVE TO EXPLAIN VALUE ENGINEERING TECHNIQUES BECAUSE THAT'S YOUR EXPERTISE. LET ME JUST POINT OUT THAT THE VALUE ENGINEERING PROGRAM, AS APPLIED TO SPARE PARTS, HAS BEEN IDENTIFIED AS A CRITICAL BILL PAYER IN THE IMPLEMENTATION OF THE SPARE PARTS INITIATIVES. LET ME EXPLAIN.

CHART 33

EARLY ON IN THE DEVELOPMENT OF THE SPRINT PLAN, THREE PRIME CENTERS WERE IDENTIFIED AS OFFERING HIGH POTENTIAL FOR SAVINGS. THESE AREA WERE VALUE ENGINEERING, BREAKOUT AND REFUNDS. AS SHOWN ON THE CHART, BREAKOUT OF ITEMS-- THAT IS THE PURCHASE OF ITEMS DIRECTLY FROM THE ACTUAL MANUFACTURER OR IN OPEN COMPETITION-- IS A KEY COST SAVER. SAVINGS FROM VALUE ENGINEERING FILLS THE REMAINDER OF THE SAVINGS PICTURE BECAUSE IT IS NOT LIKELY THAT SUBSTANTIAL SAVINGS WILL RESULT FROM REFUNDS-- ALTHOUGH $368,000 IN REFUNDS IS NOTHING TO SCOFF AT. SO THE

CHART 30

SPRINT 4 RELATES TO BREAKOUT IN THAT IT DEALS WITH INCENTIVIZING CONTRACTORS TO PARTICIPATE IN CREATING THE ENVIRONMENT NECESSARY TO BREAKOUT ITEMS. UNDERSTAND, THIS IS EASIER SAID THAN DONE. THE BOTTOM LINE IN BREAKOUT IS THAT A PRIME CONTRACTOR MAY BE IN A POSITION OF LOSING A PORTION OF HIS BUSINESS BASE IF THE GOVERNMENT BUYS DIRECTLY FROM THE ACTUAL MANUFACTURER OR IF THE ITEM IS OPENED TO COMPETITION. THE ARMY HAS INSTITUTED SEVERAL INITIATIVES INCLUDING SOME FACTORS WHICH CONTRIBUTE TO EFFECTIVE BREAKOUT IN THE SOURCE SELECTION CRITERIA. WE ARE TESTING A "MO[illegible] CONCEPT" WHICH SHARES SAVINGS WITH CONTRACTORS WHO ACTIVELY PURSUE BREAKOUT. THE ARMY ALSO IS INCLUDING BREAKOUT AS AN AGENDA ITEM IN EARLY ACQUISITION PLANNING. THE BUYING COMMANDS HAVE ALSO DEVELOPED SPECIAL CLAUSES WHICH ENHANCE THE OPPORTUNITIES FOR BREAKOUT. ALL OF THESE EFFORTS WILL ULTIMATELY RESULT IN MORE CANDIDATES FOR BREAKOUT. THIS MEANS MORE OPPORTUNITY FOR INDUSTRY AND MORE POTENTIAL SAVINGS TO THE GOVERNMENT.

* - 1. AMCCOM - 155MM SP (PIP-HIP)

2. AVSCOM - LHX (LIGHT HELICOPTER EXPERIMENTAL) - ENGINE

3. MICOM - AAWS (ADVANCED ANTI-TANK WEAPONS SYSTEM)

4. TROSCOM - 3,000 GPH WATER PURIFICATION SYSTEM

CHART 33

WE'VE ALL HEARD THE STATEMENT "LET'S NOT REINVENT THE WHEEL". UNFORTUNATELY FOR THE SERVICES, THERE HAVE BEEN NUMEROUS CASES OF THAT TAKING PLACE. WE HAVE HAD CASES IN THE PAST OF NEW PARTS BEING DESIGNED AND MANUFACTURED WHEN A PART WHICH MEETS ALL OF

ROLLING OFF, WE HAVE FOUND THAT MANY PARTS CAN BE MORE ECONOMICALLY PROCURED AS A PORTION OF AN OVERALL BUY.

CHART 28

THE THIRD SPRINT HAS TO DO WITH BOLSTERING OUR ALREADY FAVORABLE STATISTICS ON COMPETITION IN SPARE PARTS PROCUREMENT. THE DEPARTMENT OF DEFENSE PUBLISHED A SUPPLEMENT TO THE FEDERAL ACQUISITION REGULATION IN JUNE OF 1983 THAT EXPANDED THE OPPORTUNITIES FOR INDUSTRY BY REQUIRING THAT ITEMS IN THE INVENTORY BE SCREENED. THE ACQUISITION METHOD CODE WAS SCREENED TO INSURE THAT THE NEXT TIME THE ITEM WAS PURCHASED, IT WOULD BE BOUGHT EITHER IN OPEN COMPETITION OR FROM THE ACTUAL MANUFACTURER. DURING THE LAST TWO QUARTERS, AMC BUYING COMMANDS SCREENED AND RECODED OVER $209 MILLION IN SPARE PARTS TO BE PURCHASED OVER THE NEXT YEAR. OUR CONSERVATIVE ESTIMATE OF ANNUAL SAVINGS ON THIS VOLUME OF SPARE PARTS BY PURCHASING DIRECTLY FROM THE MANUFACTURER AND BY GOING TO OPEN COMPETITION IS $41 MILLION.

CHART 29

HERE ARE SOME EXAMPLES OF COST SAVINGS ON SPARE PARTS ACTUALLY PROCURED BY AMC. THESE ACTUAL SAVINGS SPEAK FOR THEMSELVES. UNFORTUNATELY, THE $1.8 MILLION IN SAVINGS ON THE TRANSFER CASE FOR THE M809 TRUCK RESULTING FROM BREAKOUT IS NOT SOMETHING THAT THE MEDIA GAVE MUCH ATTENTION TO, BUT IT IS IMPORTANT TO THE ARMY.

* - (M809 = CHASSIS, TRUCK, 6x6, 5 TON)

CHART 24

I WOULD LIKE TO SPEND A COUPLE OF MOMENTS TALKING ABOUT A SOMEWHAT SENSITIVE ITEM, THAT OF REFUNDS. IT IS THE OFFICE OF THE SECRETARY OF DEFENSE AND AMC'S POSITION THAT WHERE AN INSTANCE OF OVERPRICING HAS BEEN IDENTIFIED, WE WILL PURSUE EVERY POSSIBLE AVENUE OPEN TO RECOVER OVERPAYMENTS. THE GOVERNMENT HAS NUMEROUS LEGAL REMEDIES AVAILABLE TO IT TO RECOVER FUNDS WHERE CONTRACTS WERE AWARDED BASED ON FAULTY COSTING DATA OR WHERE FRAUD OR DECEPTION CAN BE PROVEN. WHAT WE ARE ADDRESSING ATTENTION TO NOW ARE THOSE CASES OF GLARING OVERPRICING. THERE ARE 211 POTENTIAL CASES IN THE ARMY THAT HAVE BEEN SO IDENTIFIED AND WE ARE AGGRESSIVELY SEEKING REFUNDS. THE POTENTIAL REFUNDS AMOUNT TO $3.2 MILLION. SO FAR OVER $368,654 IN REFUNDS HAVE BEEN OBTAINED.

CHART 25

IN MAKING THE SPRINT PROGRAM RESPONSIVE TO THE NEEDS OF THE ACQUISITION PROCESS, WE HAVE ATTEMPTED TO MAINTAIN A COMMON SENSE APPROACH.

CHART 26

FOR EXAMPLE, WHERE IT MAKES SENSE, WE ARE ANNUALIZING BUYS WHEN IT PROVES TO BE FINANCIALLY JUSTIFIED. BUYING SPARES ONCE A YEAR INSTEAD OF SEVERAL TIMES A YEAR HAS RESULTED IN REDUCED ADMINISTRATIVE BURDEN AND HAS PROVIDED OPPORTUNITIES FOR MORE ECONOMICAL BUYS.

CHART 27

WE ARE INTEGRATING SPARE PARTS PROCUREMENT WITH THE PRODUCTION BUY. ONCE A PRODUCTION LINE IS RUNNING AND THE END ITEM IS

THROUGH THE USE OF UNPRICED INSTRUMENTS, THE SERVICES ARE PERMITTED TO GIVE A CONTRACTOR THE GREEN LIGHT ON STARTING TO PRODUCE AN ITEM BEFORE ARRIVING AT A FIRM FIXED PRICE.

CHART 22

THE ARMY FOUND THAT WHILE THIS METHOD OFTEN SHORTENED THE TIME REQUIRED TO BEGIN WORK, AND ULTIMATELY DELIVER AN ITEM, THE RELIANCE ON THIS TOOL WAS INCREASING. ALSO, THE TIME TO DEFINITIZE THESE UNPRICED INSTRUMENTS WAS CREEPING UP. TO RECTIFY THIS SITUATION, THE ARMY TIGHTENED UP THE CONTROLS ON UNPRICED INSTRUMENTS WITH THJE ISSUANCE OF NEW POLICY CONCERNING UNPRICED INSTRUMENTS LAST NOVEMBER.

CHART 23

THIS HAS RESULTED IN DRAMATIC REDUCTIONS IN THE BALANCE OF UNPRICED INSTRUMENTS, A 64% REDUCTION OVER THE PERIOD DEC 83 TO SEP 84. AS YOU CAN SEE FROM THE CHART, LAST DECEMBER THE ARMY HAD 4163 UNPRICED INSTRUMENTS ON HAND. THAT NUMBER STOOD AT 1498 ON 30 SEPTEMBER 1984. THE BALANCE OF INSTRUMENTS UNDEFINITIAZED FOR OVER 180 DAYS WAS 2726 IN DECEMBER, FALLING TO 812 IN SEPTEMBER. FURTHER REDUCTIONS ARE ANTICIPATED. THE ARMY NOW REQUIRES UP FRONT PRICING WITH FEW EXCEPTIONS. THIS INCREASE IN PRICING DISCIPLINE, AS WITH ALMOST ANY APPLICATION OF DISCIPLINE, IS NOT WITHOUT ITS IMPACTS. BECAUSE IT NORMALLY TAKES LONGER TO AUTHORIZE A CONTRACTOR TO START WORK UNDER A PRICED CONTRACT, SOME ADDITIONAL PRICE IS TO BE PAID IN INCREASED LEAD TIME.

CHART 19

THE CONTRACTORS THAT SOLD THE AIR FORCE AND NAVY THE $400 HAMMER, THE $1000 STOOLCAP, AND THE $100 DIODE WERE WELL WITHIN APPROVED METHODS OF ACCOUNTING IN CHARGING WHAT THEY CHARGED. ONE OF THE OBJECTIVES OF SPRINT HAS BEEN TO IDENTIFY DISPARITIES IN PRICING. AMC HAS UNDERTAKEN A MAJOR EFFORT TO REVIEW AND UPDATE OUR PRICING FILES. A SYSTEM FOR IDENTIFYING AND RECONCILING PRICE DISCREPANCIES IS IN PLACE AT OUR BUYING COMMANDS. THIS SYSTEM INCLUDES EMPLOYEE HOT LINES, COMPUTER PROGRAMS TO FLAG PRICE INCREASES ABOVE CERTAIN THRESHOLDS, AND A DATA BASE REVIEW TO CORRECT OBVIOUS CASES OF IMPROPER PRICES.

CHART 20

IT HAS BEEN GRATIFYING TO WITNESS THE POSITIVE RESPONSE OF THE EMPLOYEES OF AMC TO THE CALL OF IDENTIFYING AND RESOLVING PRICE DISCREPANCY QUESTIONS. OUR EMPLOYEE AWARENESS PROGRAM AT THE BUYING COMMANDS STRESSES A TEAM EFFORT TO IDENTIFYING AND CORRECTING PRICE DISCREPANCIES. WE HAVE MADE IT CLEAR THAT THOSE THAT DO MAKE SIGNIFICANT CONTRIBUTIONS TO THE SUCCESS OF THE SPARE PARTS REVIEW INITIATIVES WILL BE REWARDED. TO DATE WE HAVE REWARDED 289 MEN AND WOMEN WITH CASH AWARDS, CITATIONS, AND OTHER RECOGNITION. I SHOULD ALSO MENTION THAT WE HAVE MADE IT CLEAR THAT DISCIPLINARY ACTION WILL BE TAKEN, WHEN APPROPRIATE, IN CASES WHERE EMPLOYEES ARE NEGLIGENT.

CHART 21

PROFESSIONALISM REQUIRES DISCIPLINE. THE ARMY HAS TAKEN DRAMATIC STEPS TO INCREASE THE DISCIPLINE IN THE PRICING OF SPARE PARTS.

Competition

GOAL

Expand Competition

Requirements

Project BOSS

- Increasing Accountability Demands Greater Availability of Procurement Data
- Need to Institutionalize Sound Purchasing Practices
- Market Research Required to Identify New Suppliers
- Need to Promote Value Engineering and Standardization

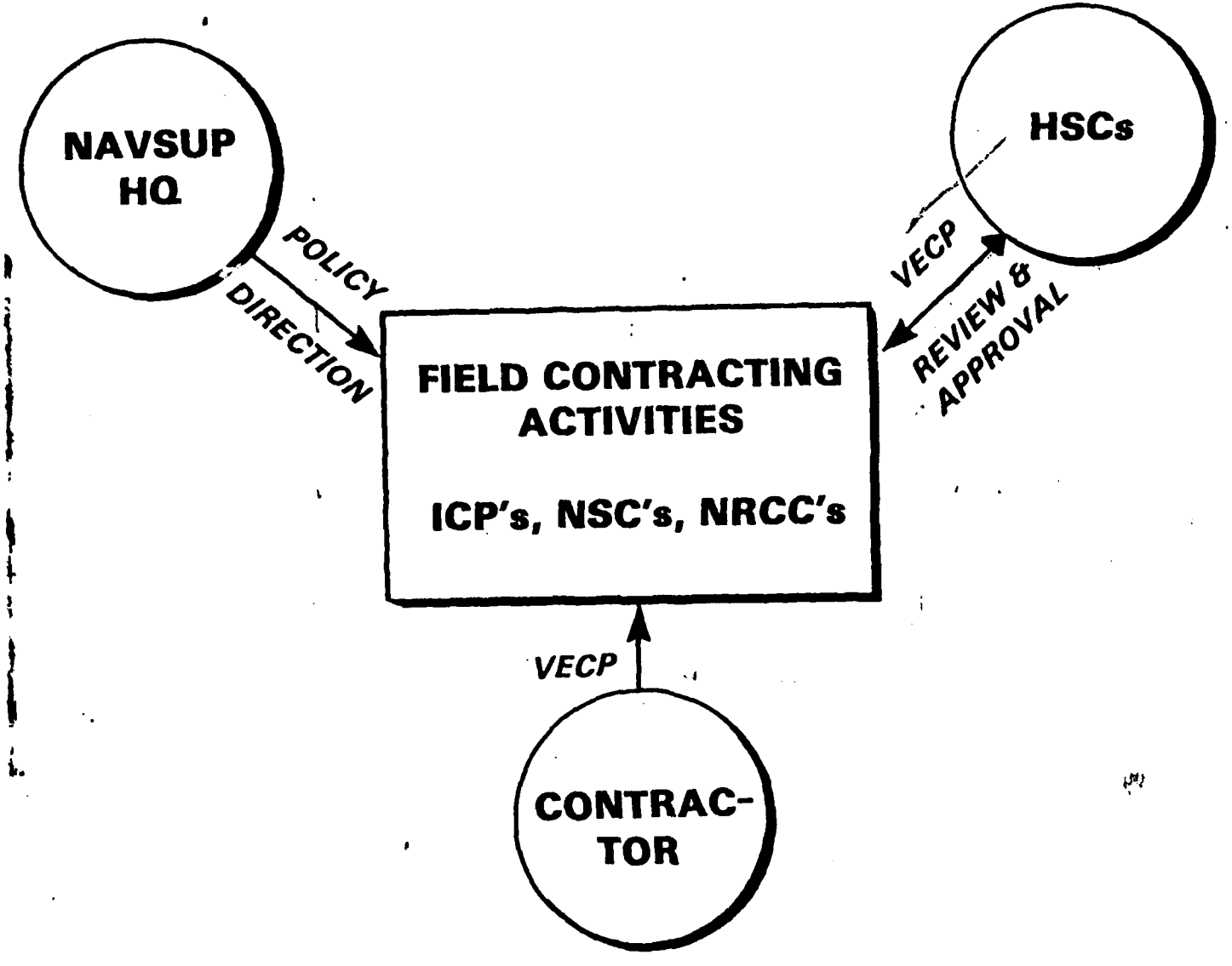
Industry Assistance Required

- Provide Information to Procure Vendor Items Direct
- Refrain from Quoting Vendor Purchased Parts
- Submit Cost Proposals in a Timely Manner
- Identify Candidates for Multi-Year Procurement
- Increase Value Engineering Efforts
- Volunteer Refunds Where Appropriate
- Provide Realistic Price Estimates at Provisioning
- Avoid Equal Allocation Method

MANAGEMENT ACTIONS

- VE CLAUSE THRESHOLD LOWERED FROM 100 TO 25K (SEPT 83)
- FOCAL POINTS ESTABLISHED AT FIELD ACTIVITIES (ICP's, NSC's, NRCC's) (OCT 83)
- FIVE VE POSITIONS ESTABLISHED AT ICP's (DEC 83)
- TRAINING (MAR-SEPT 84)
  - VE ORIENTATION COURSE 117
  - PAVE COURSE 5
  - CAVE COURSE 2
- LETTERS TO EXECUTIVES OF MAJOR CONTRACTORS (JUNE 84)
- VE CONTRACT GUIDE FORWARDED TO NAVSUP FIELD ACTIVITIES (JULY 84)
- VE HDQTRS FOCAL POINT TRANSITIONED FROM SUP 032 (POLICY BRANCH) TO PML550 (OCT 84)
- NAVSUP IMPLEMENTING INSTRUCTION (OCT 84)

NAVSUP VECP PROCESS



NAVSUP VECP EXAMPLE

NSN 1H 5975 - 00 - 881 - 8856

NOMENCLATURE HULL FITTING, STUFFING TUBE

APPLICATION AN/BQQ - 1 SONAR

PROCURED COMPETITIVELY TO BUSHIPS DWG. 815 - 1197218 REV. E

CONTRACTOR SAY-CO LANCASTER, PA

VECP - ALTERED THE DIMENSION, MATERIAL AND MICRO FINISH OF VARIOUS PIECE PARTS THUS ELIMINATING MACHINING OPERATIONS

UNIT PRICE BEFORE VECP $ 83.50

UNIT PRICE AFTER VECP $ 52.47

SAVINGS $173,647

VECP REVIEWED AND APPROVED BY NAVSEA CODE 56Z34

BUY OUR SPARES SMART Pricing

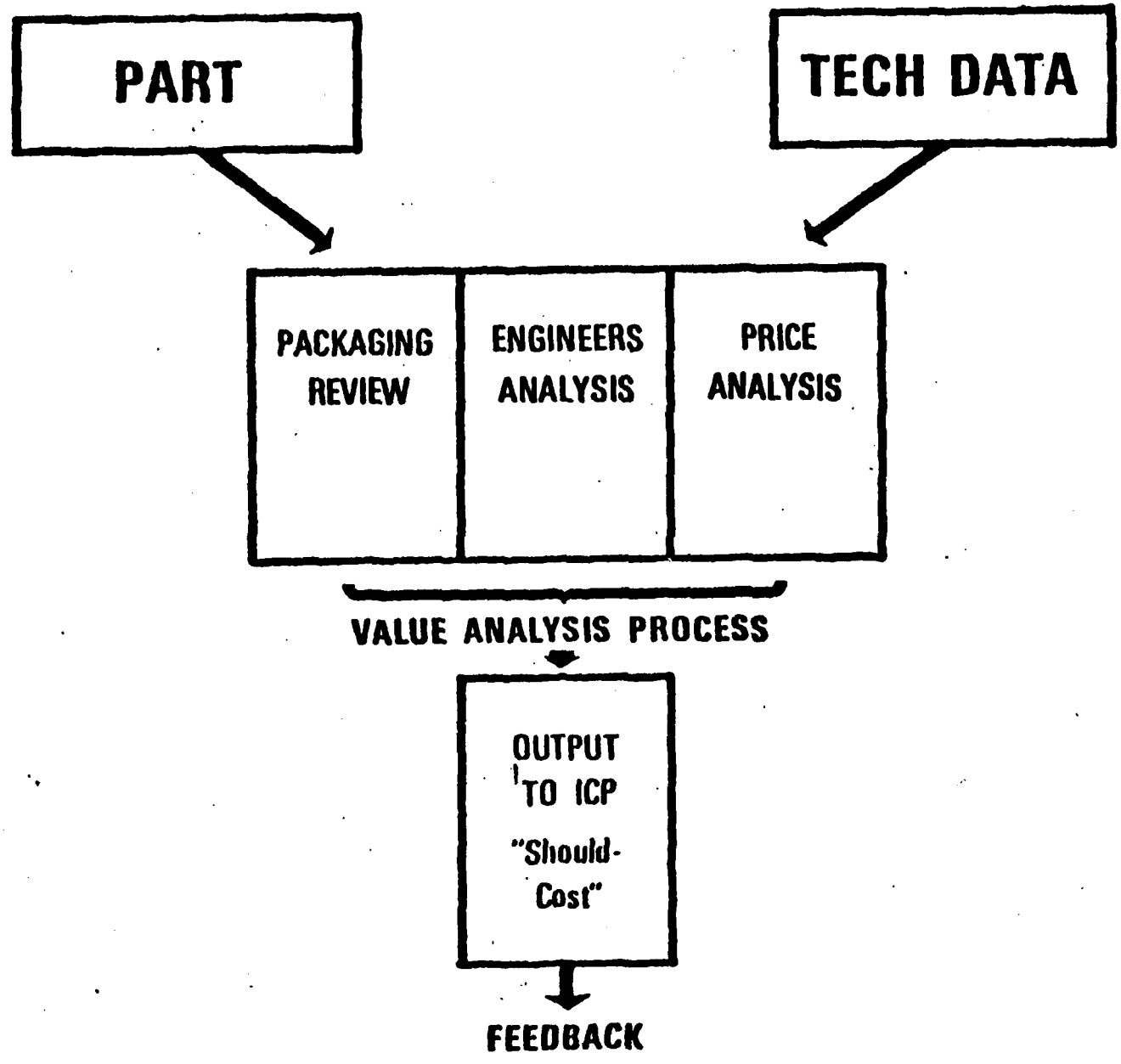
GOAL

Pay the "Should Cost" Value of a Spare

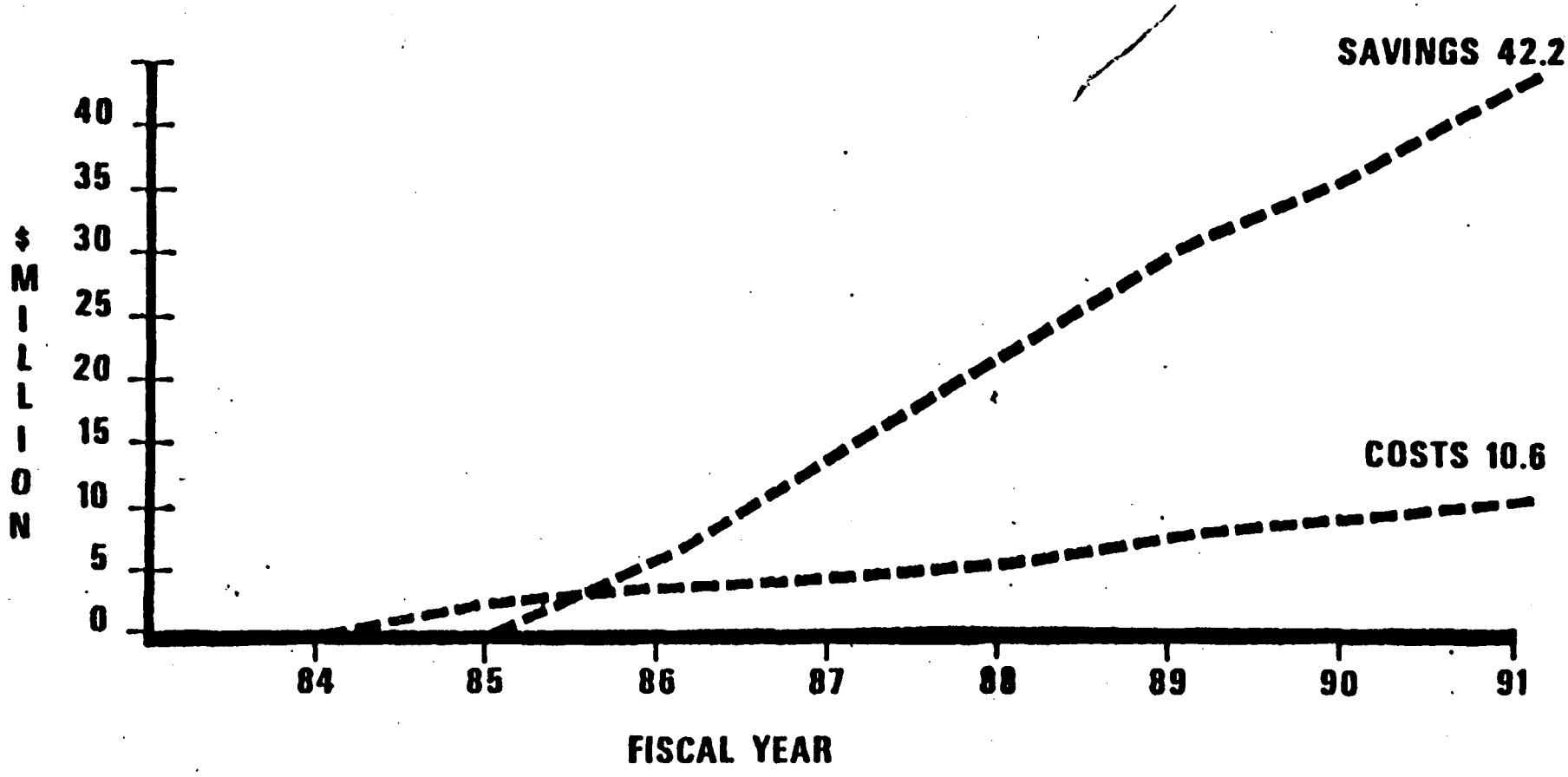
Major Initiatives

- Price Fighter
- Cost Allocation Revision
- Out-of-Tolerance Prices - Identify/Resolve
- Review Over-Reliance on Defense Contract Administration Services

VALUE ANALYSIS - OVERVIEW

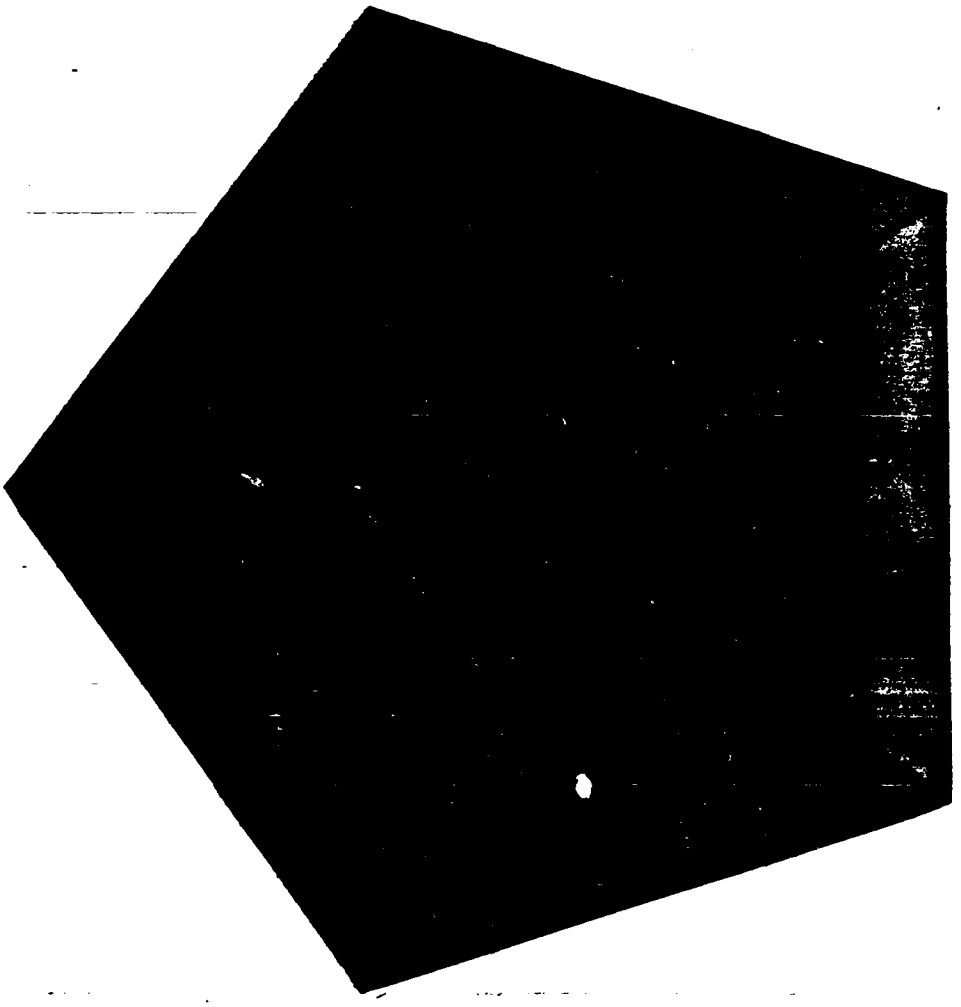


PRICE FIGHTER
COSTS VS SAVINGS



SYSTEM ON CHIP

- PROVISIONING PROCESS
- COST ALLOCATION
- QUANTITIES
- PASS-THRU CHARGES
- INEFFICIENCY
- TECHNICAL REQUIREMENTS
- ERRORS
- CRIMINAL



THE PROBLEM

WHAT -- **LOW COMPETITION RATES**
HIGH INITIAL PRICES
HIGH PRICE INCREASES

WHERE -- **MOSTLY LOW VALUE NON-REPARABLES**

WHY -- **LOW VALUE ITEMS NOT SCREENED FOR BREAKOUT**
UNDER FUNDING -- BUY GUIDELINES
PRICING AND COST ALLOCATION METHODS
MANNING AND WORKLOAD

FIXING THE PROBLEM

- INCREASE COMPETITION
- STANDARDIZE AND STREAMLINE THE REQUIREMENT DETERMINATION PROCESS
- IMPROVE PRICING

AD-A156 070 DOD VALUE ENGINEERING CONFERENCE REPORT VALUE ENGINEERING (VE) - A TOOL T..(U) DOD PRODUCT ENGINEERING SERVICES OFFICE ALEXANDRIA VA 2/2

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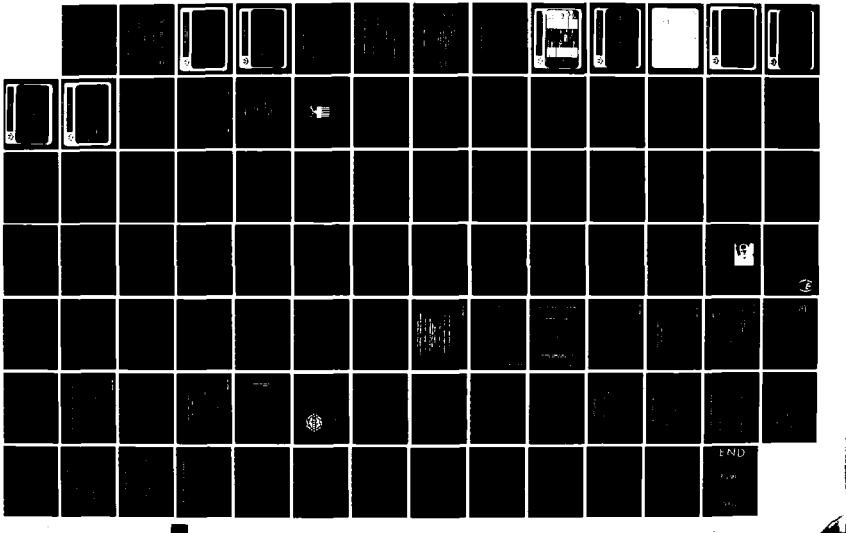
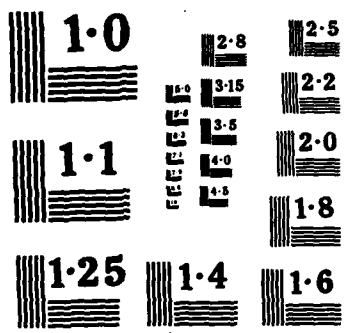
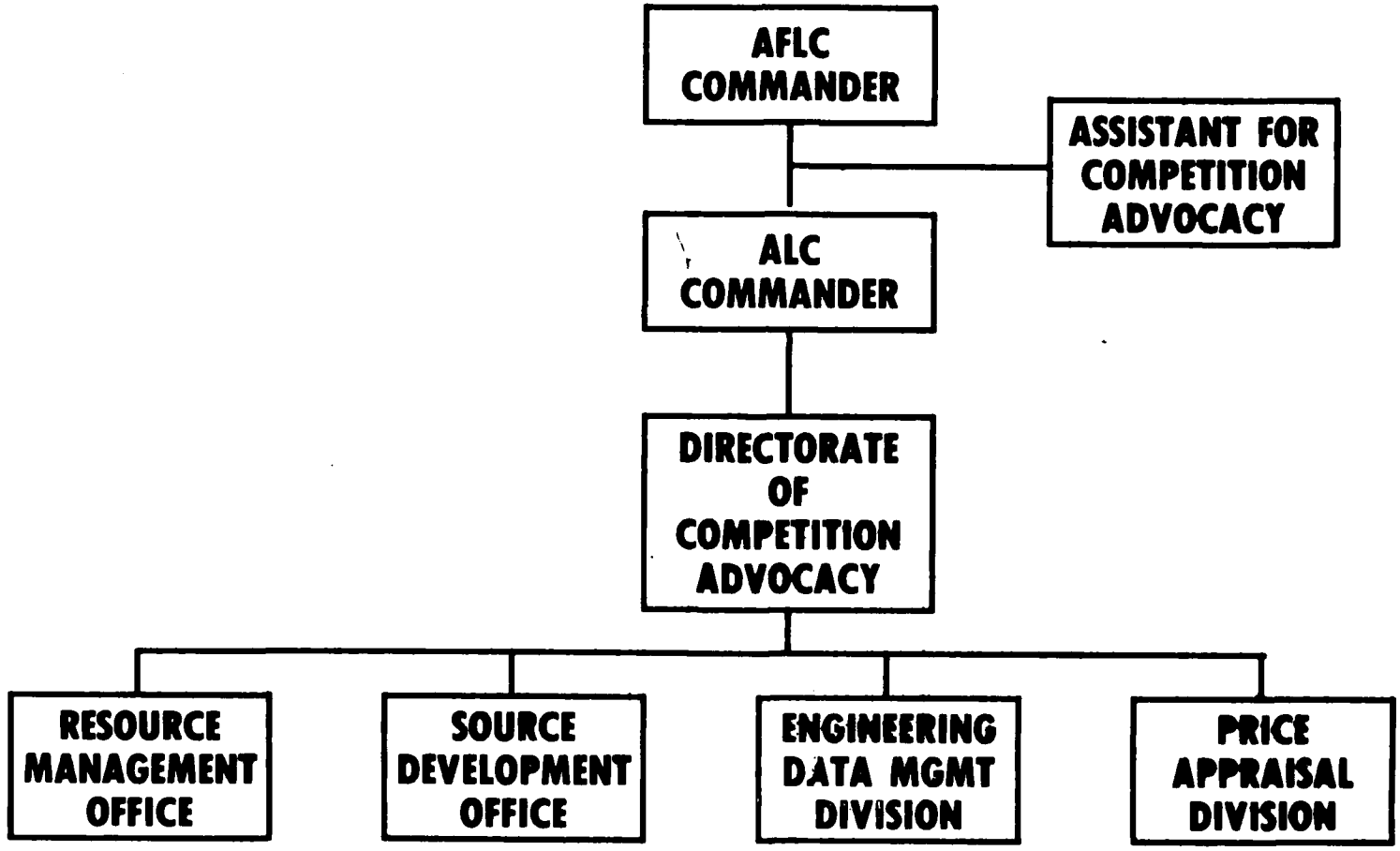




COMPETITION ADVOCATE — ORGANIZATION



COMPETITION ADVOCATE MANNING

AUTHORIZATIONS

	BY FUNCTION FY 84	BY FUNCTION FY 85		BY LOCATION FY 84	BY LOCATION FY 85
CR	15	15	OC-ALC	105	387
CRS	40	40	OO-ALC	101	249
CRX	60	60	SA-ALC	111	332
CRE	255	912	SM-ALC	87	200
CRV	136	443	WR-ALC	102	302
	506	1470		506	1470
HQ AFLC	7	8	HQ AFLC	7	8
	513	1478		513	1478

Project:

RETURN REU

CHALLENGES

- ELIMINATE BARRIERS TO COMPETITION
- IMPLEMENT DOD REPLENISHMENT PARTS BREAKOUT PROGRAM
- PROMOTE SOURCE QUALIFICATION
- MANAGE ENGINEERING DATA
- IMPLEMENT PACER PRICE PROGRAM
- PROMOTE PACER ZERO PROGRAM

SOURCE DEVELOPMENT OFFICE

- CONDUCTS MARKET RESEARCH AND ANALYSIS
- PURSUES THE DEVELOPMENT OF NEW SOURCES
- VISITS CONTRACTOR PLANTS AND FACILITIES
- INTERFACES WITH THE SMALL AND DISADVANTAGED BUSINESS SPECIALIST
- REVIEWS PROPOSED NONCOMPETITIVE LOCAL PURCHASES

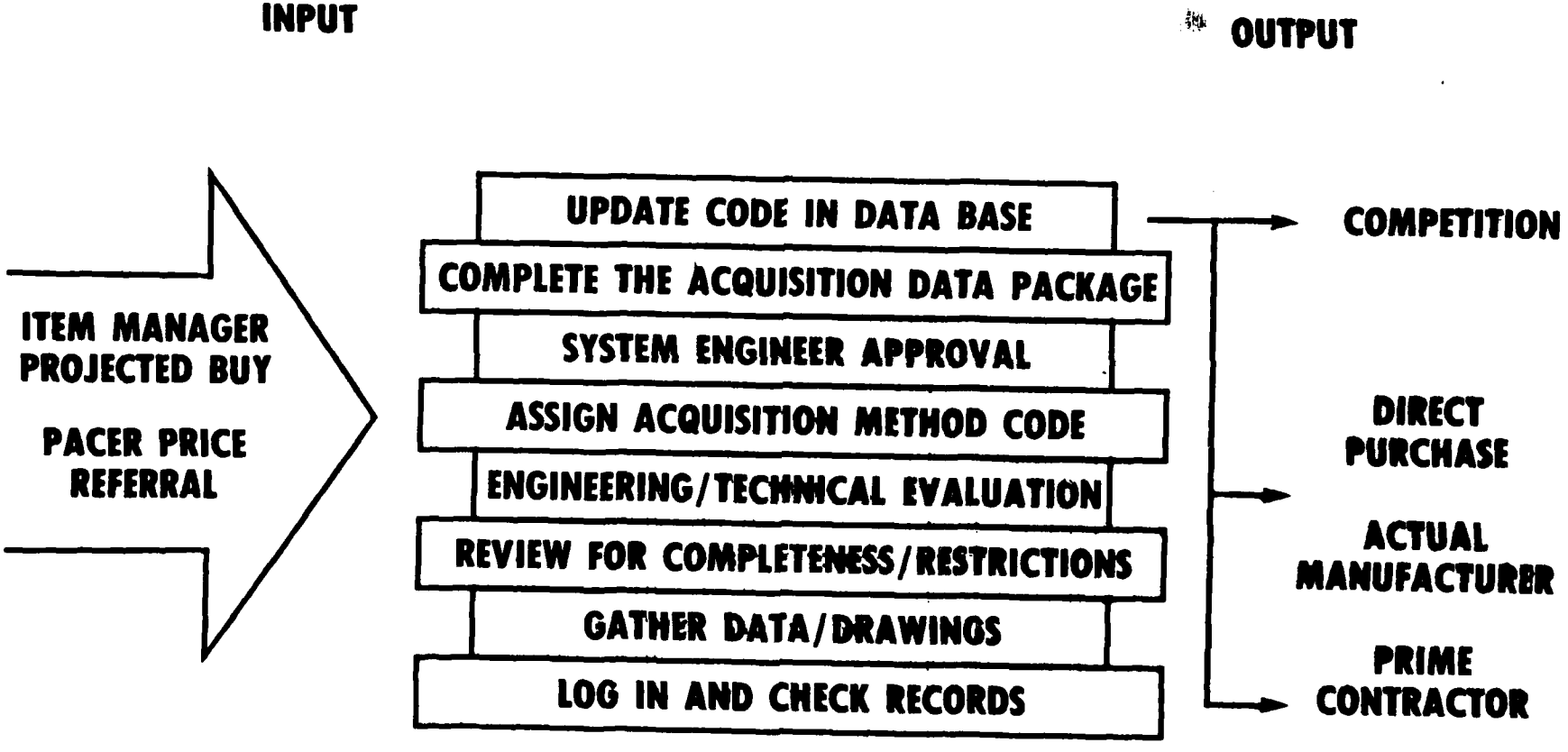
ENGINEERING DATA MANAGEMENT DIVISION

- SCREENS ITEMS FOR BREAKOUT TO DIRECT PURCHASE OR COMPETITION
- IDENTIFIES AND OBTAINS TECHNICAL DATA NEEDED FOR COMPETITION INITIATIVES
- COMPILES ENGINEERING DATA PACKAGES FOR COMPETITIVE BUYS
- IDENTIFIES LIMITED RIGHTS DATA AND SPONSORS ACQUISITION
- CHALLENGES PROPRIETARY RIGHTS CLAIMS
- ENSURES ENGINEERING DATA PLANNING ON NEW ACQUISITIONS

Project

RETURN I

BREAKOUT SCREENING

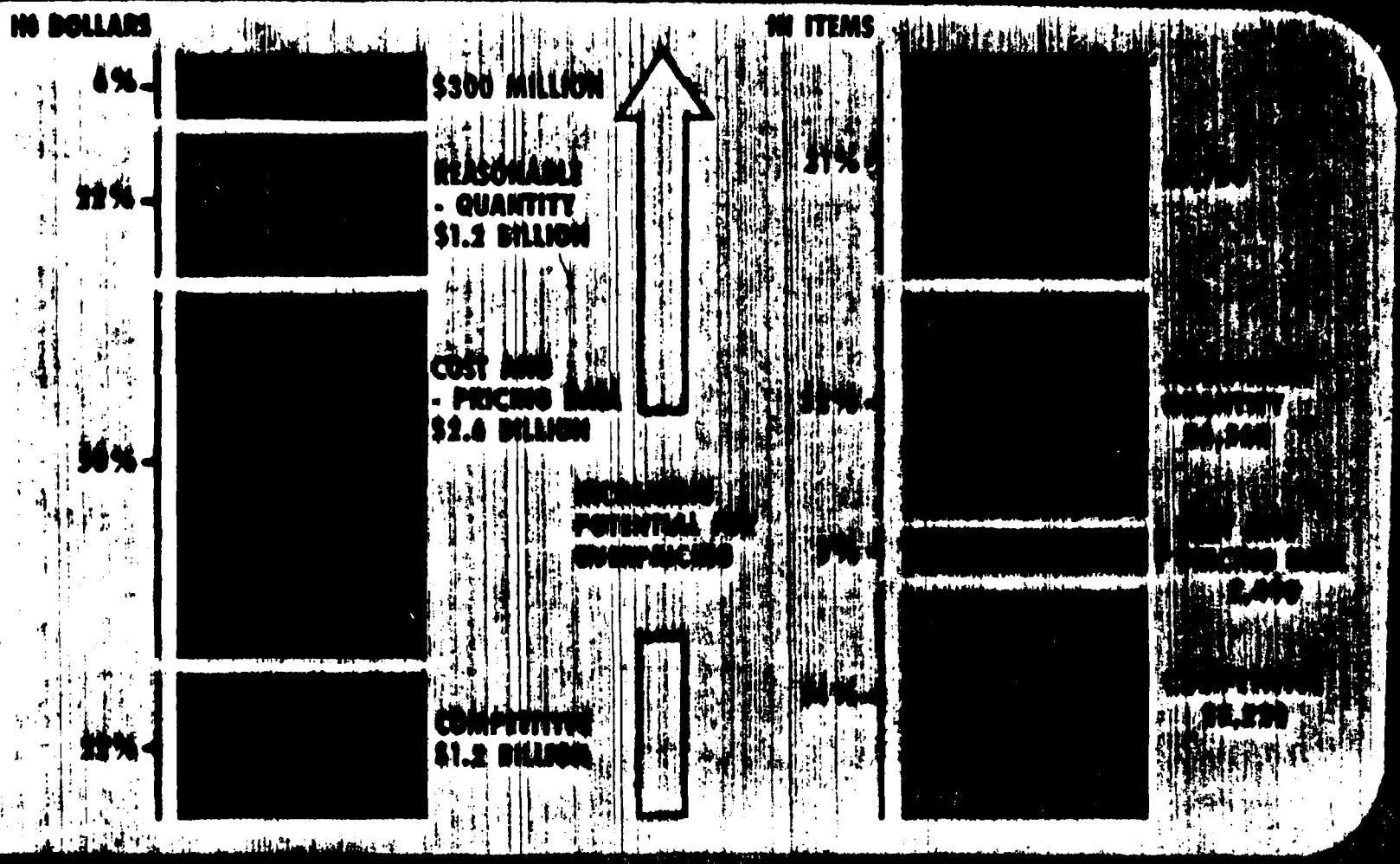


Project RETURN RI

PRICE APPRAISAL DIVISION

- CONDUCTS PRICE APPRAISAL REVIEWS
- DEVELOPS "SHOULD COST" TARGET PRICES
- EVALUATES ZERO OVERPRICING REFERRALS
- SUPPORTS SPECIAL MANAGEMENT REVIEWS
- PROVIDES PRICING ASSISTANCE TO BUYERS UPON REQUEST

PRICE APPRAISAL CANDIDATES



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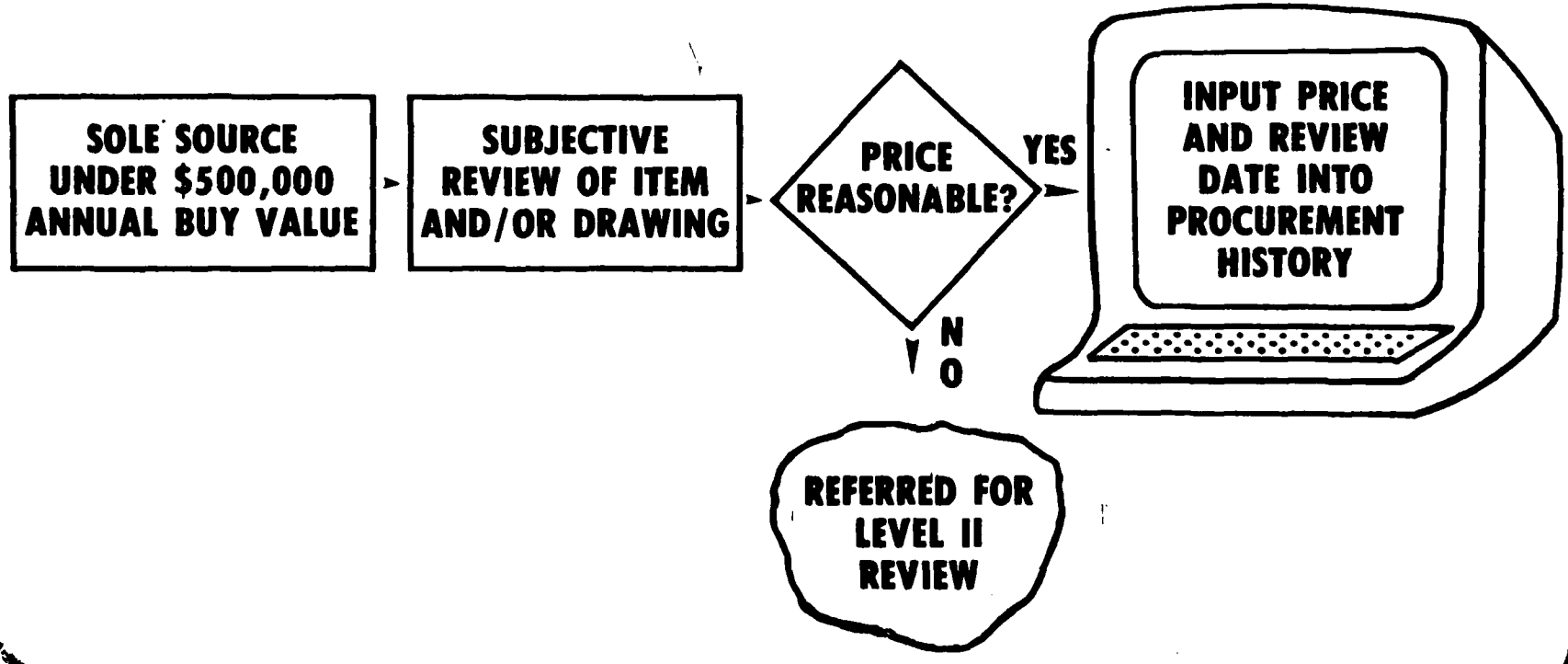
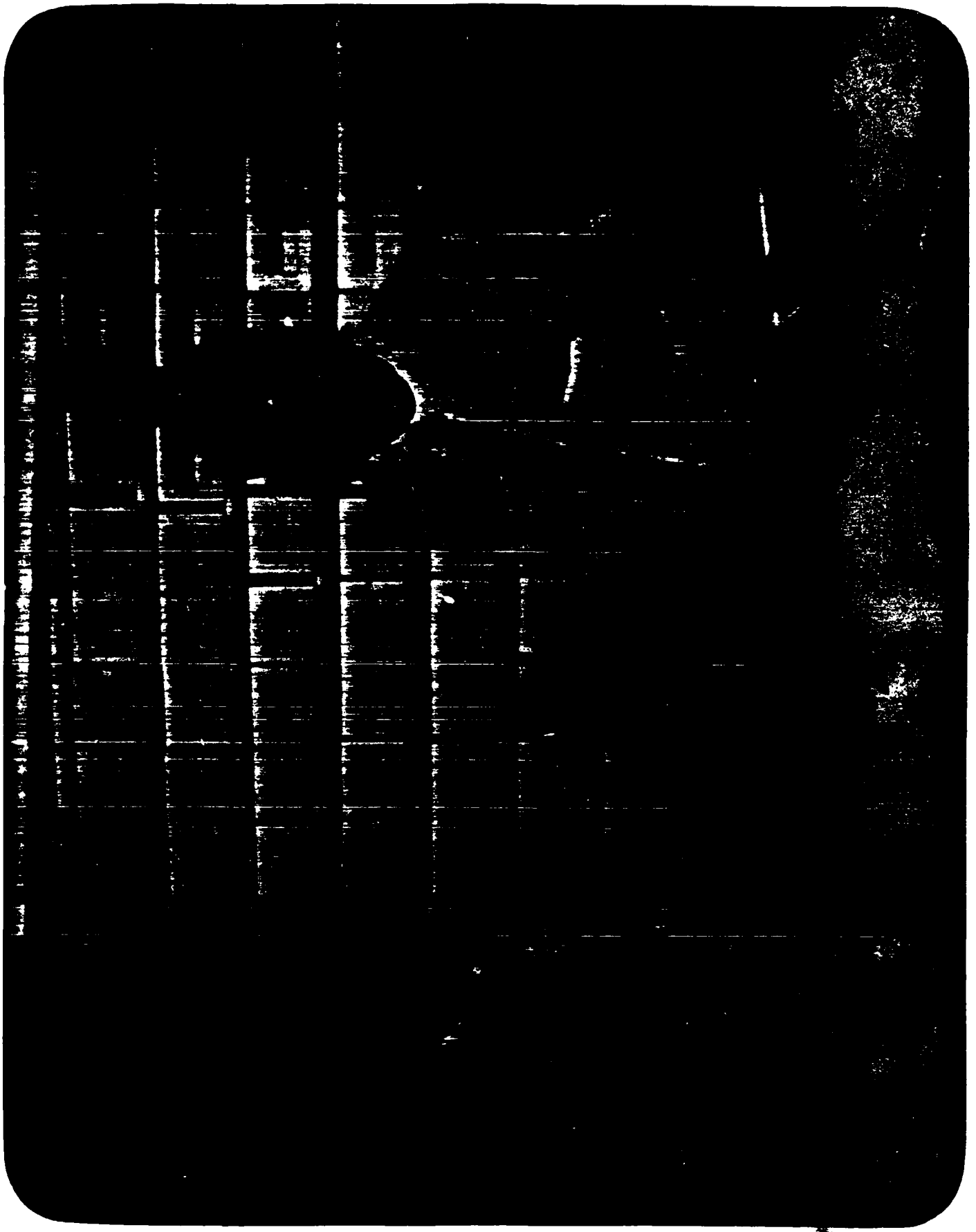
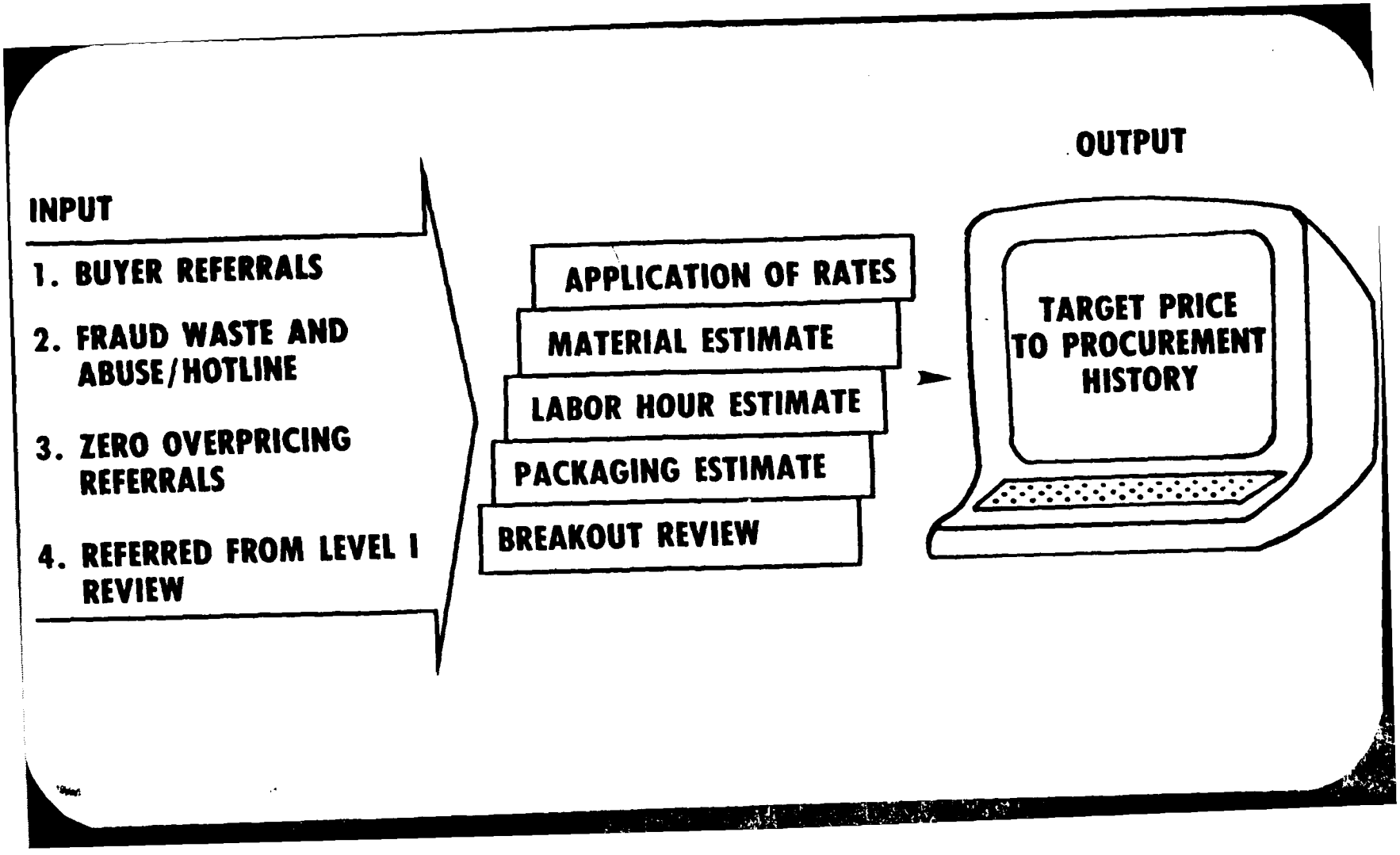
PACER PRICE LEVEL I REVIEWS





	ITEMS
ITEMS REVIEWED	46,892
PRICE REASONABLE	30,423 (65%)
REFERRED FOR ADDITIONAL ACTION	16,469 (35%)


INPUT
1. BUYER REFERRALS
2. FRAUD WASTE AND ABUSE/HOTLINE
3. ZERO OVERPRICING REFERRALS
4. REFERRED FROM LEVEL I REVIEW
APPLICATION OF RATES
MATERIAL ESTIMATE
LABOR HOUR ESTIMATE
PACKAGING ESTIMATE
BREAKOUT REVIEW
OUTPUT
TARGET PRICE TO PROCUREMENT HISTORY

TECHNICAL

- VALUE ENGINEERING INITIATIVES
  - EMPHASIS ON BREAKING SOLE SOURCE
    - DEVELOP COMPETITIVE TECH DATA
    - FIND NEW SOURCES
  - EMPHASIS ON REVERSE ENGINEERING
    - ENCOURAGE CONTRACTOR PROGRAMS
    - POTENTIAL CONTRACTING OUT

TECHNICAL

- VALUE ENGINEERING SAVINGS TREND

FISCAL YEAR	1980	1981	1982	1983
$ (MILLIONS)	39.9	42.0	42.3	51.6
RETURN-ON-INVESTMENT	38:1	39:1	35:1	40:1

- GOAL FOR FY 84 - $63.3 MILLION
- THIRD QUARTER FY 84 ACTUAL – $61 MILLION

COMPETITION AND PRICING

- INDIVIDUAL CENTER OEM DATA PROGRAM
  - 29 COMPANIES CONTACTED
  - 65,000 ITEMS IDENTIFIED
  - INFORMATION FOR OVER 11,000

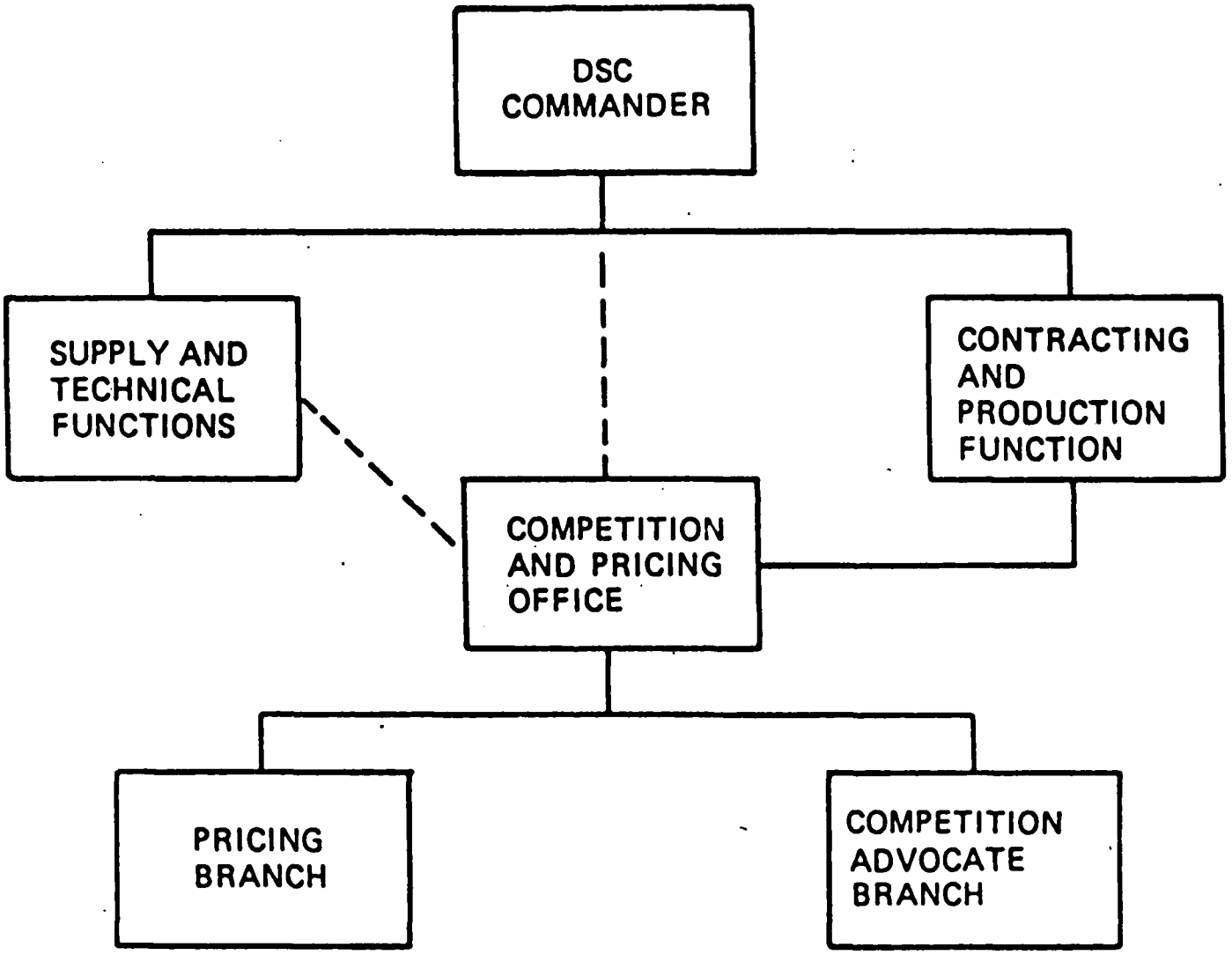
COMPETITION AND PRICING

- DATA DEFICIENCIES
  - OEM DATA PROGRAM
  - APPROACH TOP SOLE SOURCE CONTRACTORS
    - TECHNICAL DATA
    - RIGHTS RELEASES
    - IDENTIFICATION OF SUBCONTRACTED MANUFACTURERS

OVERPRICING REFUNDS

- 334 SUBSTANTIATED CASES
  - $475,639 REFUNDED
  - 214 CONTRACTORS

COMPETITION ADVOCATE ORGANIZATION



COMPETITION AND PRICING

- COMPETITION ADVOCATE ESTABLISHED UNDER CONTRACTING FUNCTIONS
- MATRIX ORGANIZATION WITH ASSIGNED FUNCTIONAL SPECIALISTS, KEY COORDINATORS/FACILITATORS DESIGNATED IN FUNCTIONAL AREAS.
- KEY FUNCTIONS:
  - LOCATE ADDITIONAL SOURCES OF SUPPLY
  - ACQUIRE TECHNICAL DATA
  - REACT TO OVERPRICING REPORTS

DLA HARDWARE CENTERS

DEFENSE CONSTRUCTION SUPPLY CENTER

- PUMPS, COMPRESSORS, PLUMBING SUPPLIES, AUTOMOTIVE PARTS AND MATERIALS HANDLING EQUIPMENT

DEFENSE ELECTRONICS SUPPLY CENTER

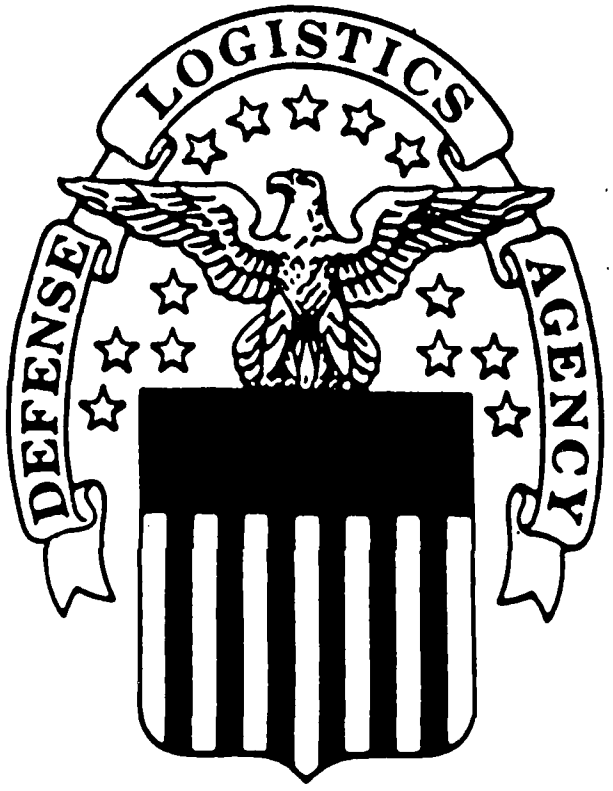
- ELECTRONIC PARTS, COMPONENTS AND SMALL TEST EQUIPMENT

DEFENSE GENERAL SUPPLY CENTER

- GENERAL HARDWARE, PHOTOGRAPHIC SUPPLIES, ELECTRIC POWER ITEMS, CABLE ASSEMBLIES, KITCHEN EQUIPMENT, WELDING RODS, CHEMICALS AND PACKAGED PETROLEUM.

DEFENSE INDUSTRIAL SUPPLY CENTER

- METAL PLATES AND SHAPES, BOLTS, RIVETS, SPECIAL FASTENERS, GASKETS AND ELECTRIC CABLE, FIBER AND WIRE ROPE.



DLA VALUE ENGINEERING (VE)
AND
COMPETITION ADVOCATE INTERFACE

SUMMARY

- LARGE, COMPLEX BUSINESS
- IMPROVEMENTS UNDERWAY
- MANPOWER CRITICAL

GOAL — EFFECTIVE ACQUISITION THROUGH:

- ENHANCED COMPETITION
- PRICING IMPROVEMENTS

ACCOMPLISHMENTS

- EOQ BUYS
- DATA RIGHTS
- VALUE ENGINEERING
- BREAKOUT
- VALUE ANALYSIS
- AUDITS OF SPARES ACQUISITION PROCESS
- MANPOWER
- TRAINING
- SUPPORT EQUIPMENT REVIEW
- REFUNDS
- PERSONNEL EVALUATION SYSTEM

CONTRACTUAL VALUE ENGINEERING

- PROBLEMS
  - ATTITUDES
  - IGNORANCE
  - LIP SERVICE
  - CONTRACTOR DISINTEREST
- SOLUTIONS
  - AFLC ACTION PLAN
  - PROGRAM REQUIREMENT FOR SPARE PARTS
  - TRAINING

LEVEL II REVIEWS
AS OF 31 AUG 84

	ITEMS
ITEMS REVIEWED	19,865
UNABLE TO EVALUATE	6,100
FULL REVIEW:	13,765 (100%)
STANDARD PRICE ERROR	534 (4%)
PRICE REASONABLE	6,019 (44%)
> 25% ABOVE TARGET	7,212 (52%)
IN WORK	4,758

SHOULD COST ANALYSIS

- OBTAIN TECHNICAL DATA AND ITEM
- EVALUATE PACKAGING REQUIREMENT
- DEVELOP SHOULD COST PRICE
  - •• ECONOMIC PRODUCTION QUANTITY
  - •• DIRECT LABOR HOURS
  - •• MATERIAL COSTS

TECHNICAL

- VALUE ENGINEERING (CONTINUED)
  - COMPETITION ADVOCATE INTERFACE
    - TECHNICAL CONTROL POINT
    - PRIORITIES FOR "HIT LIST"
  - REPLENISHMENT PARTS BREAKOUT PROGRAM INTERFACE
  - ORIENTATION OF CENTER PERSONNEL
  - AUGMENTING VE STAFFS

EXAMPLES OF VALUE ENGINEERING SUCCESSES

- MACHINE KEY; NSN 5315-00-089-3000
  - ORIGINAL UNIT COST - $33.58
  - UNIT COST AFTER BREAKOUT - $0.72
  - SAVINGS: $292,452; 98%, 10 MONTHS DELIVERY TIME
- TRANSFORMER; NSN 6120-00-646-2566
  - ORIGINAL UNIT COST - $2378
  - UNIT COST AFTER BREAKOUT - $1095
  - SAVINGS $224,524; 54%
- MAGNETIC DISK SET; NSN 7025-01-135-0542
  - ORIGINAL UNIT COST - $478.10
  - UNIT COST AFTER BREAKOUT - $230.02
  - SAVINGS $181,818; 52%, DELETION OF DUPLICATE NSN

DLA VALUE ENGINEERING (VE) AND COMPETITION ADVOCATE INTERFACE
Prepared for Panel B, VE Spares Session
DoD VALUE ENGINEERING CONFERENCE, 1 and 2 NOV 1984
Presenter: Mr. Fred Harris, DLA-SE

CHART 1 - DLA LOGO, VE AND CAPO INTERFACE

Good afternoon. I am Fred Harris, Chief of the Engineering Branch and Deputy Chief of the Engineering Programs Division, HQ DLA. I will tell you how VE interfaces with the Competition Advocate in DLA. In DLA, spare parts are our business. Perhaps this gave us a bit of a head start in this area. We have enjoyed a fairly high competition rate - last year (FY 84) 90% overall and 68% for our four hardware Centers.

CHART 2 - DLA HARDWARE CENTERS

The nature of the majority of items we manage facilitates our high competition rates. This chart lists our four hardware Centers and illustrates typical products managed. These Centers buy almost all of the spare parts we manage. Our Defense Construction Supply Center in Columbus, Ohio, manages spare parts for pumps and compressors; plumbing supplies including pipe, valves, fittings and bathroom fixtures; automotive parts, and forklifts, tractors, conveyors and other materials handling equipment. Our Defense Electronics Supply Center in Dayton, Ohio, manages all sorts of electronic parts and components, and small test equipment and knobs, shafts, and other spare parts. Our Defense General Supply Center in Richmond, Virginia, manages general hardware, photographic supplies, electric power items, cable assemblies, kitchen equipment, welding rods, chemicals and packaged petroleum. Our Defense Industrial Supply Center in Philadelphia, Pennsylvania, manages metal plates, shapes, bars and rods; bolts, rivets, special fasteners, gaskets, bulk electric cable, fiber rope and wire rope and cables.

Our Defense Fuel Supply Center in Alexandria, Virginia and Defense Personnel Support Center in Philadelphia, Pennsylvania, enjoy high competition rates, but purchase very few spare parts so their activities are not addressed in this session. Before I talk about the VE and Competition Advocate interface, I should show you how our Competition and Pricing Advocate Offices are organized.

CHART 8 - TECHNICAL

One of our long established and most successful technical programs is Value Engineering. This program represents our most significant effort in the past and we are counting on it to bring us continued major savings in the future. I should explain that Value Engineering in DLA involves very little classical VE, tht is VE which involves some kind of redesign of the product. The majority of our effort in VE is related to developing or acquiring an adequate technical data package to permit competitive procurement. You can see from this savings trend chart that our VE Program has been realizing a healthy return on investment. Our savings for FY 84 were $74.5 million, compared to our goal of $63.3 million. We have consistently improved our performance every year over the last five years in terms of dollar savings achieved. We expect to continue this trend with a goal of $81.3 million in FY 85. Nearly $60 million of the 1984 savings were from the four hardware Centers.

CHART 9 - TECHNICAL (CONTINUED)

We are continuing emphasis on breaking sole sources of supply, and besides developing the technical data packates, we are also seeking out additional manufacturers and assisting them in getting their products evaluated and approved. We are putting more effort into reverse engineering by increasing our in-house effort and hiring more engineers. We are also encouraging contractors to use this technique to develop competitive data packages. We have a program in our Centers where contractors can either buy a sample of an item outright, or borrow a sample via a bailment agreement, or come to a display area to inspect or photograph an item. We believe there are a lot of potential candidates out there, so we are also looking into contracting out reverse engineering of specific items. General Kammer, DESC Commander, will discuss reverse engineering in depth tomorrow.

CHART 10 - TECHNICAL (CONTINUED)

We are also making maximum use of our Value Engineers under our coordinated programs through the Competition and Pricing Offices (CAPOs). All referrals coming out of our CAPOs for technical review or evaluation go directly to the VE Office. VE acts as our main technical control point and determines whether to work the problem themselves or refer it to another element in Technical Operations. We have established priorities for working the so called "Hit List" items from the competition advocate. These items, which are generally high dollar or high demand items with a history of being purchased sole source, rate top priority for VE offices.

We have developed a similar arrangement between our people working the DAR Supplement 6, Replenishment Parts Breakout Program and the VE Offices. All items reviewed by the DAR Supplent 6 Group and <u>not</u> broken out are referred to VE to see if an intensive effort such as revers engineering can be used to make the item competitive.

CHART 3 - COMPETITION AND PRICING

In compliance with OSD direction, DLA has implemented the Competition Advocate Program. The DLA Deputy Director for Acquisition Management, Major General Connolly, is the Agency Competition Advocate. The DLA Director of Contracting is the Executive Agent for this effort. At each of our buying Centers, the Competition Advocate is functionally located in the Directorate of Contracting, but has direct access to the Center Commander. Our efforts are executed through a matrix organization, with representatives from the key operating organizations of Technical and Supply Operations. The designated representatives are responsible for integrating the various programs that support and expand competition to avoid duplicating and overlapping efforts, establishing priorities for overall efforts, and specifically focusing functional attention on the competition issue. The scope of operation for this organization encompasses all efforts concerned with price reductions. This includes Value Engineering, spare parts breakout, and overpricing issues from all sources. Key functions include: locating additional sources of supply, acquiring technical data needed for competitive purchases, and a system for reacting to reports of overpricing. Organizationally, our Competition Advocate structure looks like this:

CHART 4 - COMPETITION ADVOCATE ORGANIZATION

Our coordinated effort is executed through the Competition and Pricing Office (CAPO). The CAPO consists of two branches.

First, the Pricing Branch is responsible for all aspects of pricing reviews and challenges, overpricing investigations, and efforts of that nature. The previously existing Cost and Price Analysis Branches within our hardware Centers have been reassigned to the CAPO and augmented with the necessary resources. The Branch is also staffed with an engineer or two to assist or develop independent Government estimated cost data. Second, the Competition Advocate Branch consists of Procurement, Supply and Technical Specialists who are responsible for reviewing all aspects of competition and breakout, except pricing. Also, they provide technical assistance to pricing efforts.

The CAPOs have been staffed with 30 to 36 personnel, 25 of which were newly authorized spaces for each of the four hardware Centers. I must emphasize, however, that the CAPO is not a stand-alone or independent organization. Neither is the CAPO re-action function. The CAPO is an ACTION function, intended to accomplish competition and pricing enhancement prior to the need to buy any given item. The CAPO is not a stand-alone function, but is an administrative arm of all functional elements. Its primary purpose is to identify candidate items, conduct preliminary analysis and research, and then refer the items to the proper, already existing DLA program. The CAPO is also responsible for tracking and ensuring successful completion of each action. Once breakout or competition and pricing actions are completed, recommendations are passed to special purchasing team, established within each Center's Contracting Directorate. The purpose of this team is to test the breakout, competition, or pricing recommendations in a real market situation, to ensure that actions are workable before the items enter, or return to, normal processing.

CHART 5 - OVERPRICING REFUNDS

Taking advantage of the DAR deviation permitting solicitation of voluntary refunds from contractors, we are vigorously pursuing collection actions. Through the third quarter of FY 84, we had substandiated 334 overpricing cases and recouped more than $475,000 in overcharges from 214 contractors. We have realized significant increases in the numbers of price challenges of spare parts and we intend to continue being responsive to all challengers. However, our Centers have advised us that price challenges from the field under the "Zero Overpricing" program are numerous, but seldom result in any significant pricing actions for the items we manage.

CHART 6 - COMPETITION AND PRICING

We have consistently pointed out that inadequate technical data is a primary impediment to competition. This is basically and initially a Services responsibility. Of the 2.4 million items we manage, roughly half are described only by a manufacturer's name and part number. Realizing that the Services are already heavily burdened in support of their own competition programs, we are taking initiatives to reduce this dificiency as much as possible. We established an "OEM Data" program at the Headquarters level which began in December 1984 and was completed in June 1984. Under this program, we developed an automated screening process whereby our items were screened by manufacturer to identify missing data and restrictive use codes. The data were also stratified by dollar value and demand history. Various business data were also gathered for the OEMs identified. As OEMs were selected, lists were compiled and top management officials approached the OEMs at the executive level with requests to provide missing data, release restrictive rights to technical data, and provide manufacturing source information for subcontracted items for which the OEM added no value.

Twelve companies in the electronics industry were visited. The lists for these companies involved thousands of items. All visits were coordinated with our other Centers to pick up any items they may manage.

CHART 7 - COMPETITION AND PRICING (CONTINUED)

Data from our OEM visits is still being received and the program shows success. Although the initially scheduled 12 visits have been completed, the OEM visitation program is continuing through the Commanders of our hardware Centers. We have asked our Centers to coordinate visits with the Services to minimize duplication. As of the third quarter, FY 84, one Center alone had contacted 29 companies involving more than 65,000 items. Data has been received on more than 11,000 items. Items are currently being reviewed for records updates. The companies contacted have been cooperative and are still working the items. Now I will move into the initiatives which comprise the technical aspects of our coordinated programs.

CHART 10 (CONTINUED)

Much of our success depends on the participation of people outside the VE Offices. This year we have undertaken the ambitious task of orienting all appropriate contracting, technical and supply personnel at our Centers. Some 1800 people are receiving the orientation which shows them what to look for and tells them you they can help expand competition through VE.

All of this extra effort, of course, takes resources and we have effectively doubled our VE staffs at our four hardware Centers (Added +40 Workyears).

CHART 11 - EXAMPLES OF VALUE ENGINEERING SUCCESSES

This chart gives an idea of the types of savings we realize from VE.

The first item is a simple machine key with a regular shape, 1/4 inch thick, about 1/2 inch wide and nearly and inch long. It has a critical function as it provides for the transfer of power between a shaft and a gear in the power train in the CH-46 and CH-47 helicopter. When the buyer at our Defense Industrial Supply Center received a quote of $33.58 each for this item, he asked for VE assistance. The VE office analyzed the key and its application. They determined that proper size, material and temper are essential and developed a drawing for the part previously identified by only a manufacturer's name and part number. VE then obtained engineering approval of the drawing from the Army, Navy and Air Force. The procurement description was changed to competitive and an award was made for 8,900 keys at 72 cents each. This was a 98% reduction in cost and an immediate savings of $292,454. As an additional benefit, delivery time was reduced from 16 months to 6 months.

The other two examples shown resulted in significant instant savings through similar efforts at Defense General and Defense Electronics Supply Centers. The last example also resulted in the elimination of a duplicate NSN.

DLA policy requires that our Value Engineers obtain approval from the assigned Services Engineering Support Activity before we implement changes developed. We are working with our Value Engineers to assure that our investigations are thorough and our data packages requesting decisions are complete. We greatly appreciate the excellent support and fast response times the Services are providing in most instances.

This completes my presentation. Are there any questions?

REVERSE ENGINEERING

1984 DoD Value Engineering Conference
Leesburg, Virginia
November 2, 1984
0915-1000 Hours

Brig. Gen. Herman C. Kammer, Jr., USA

(SLIDE: REVERSE ENGINEERING/GETTING AT THE SOURCE)

GOOD MORNING!

THERE'S AN EXPRESSION ATTRIBUTED TO THE AMERICAN WRITER EMERSON THAT, IN ESSENCE, SUGGESTS: "IF A MAN BUILDS A BETTER MOUSETRAP, PEOPLE WILL MAKE A PATH TO HIS DOOR, EVEN THOUGH IT BE DEEP IN THE WOODS."

THAT MAY BE TRUE FOR MOUSETRAPS AND THE IMPLEMENTS OF EMERSON'S DAY, BUT IT'S NOT NECESSARILY THE CASE FOR MILITARY ITEMS OF SUPPLY LIKE THE ELECTRONIC PARTS WE BUY AT THE DEFENSE ELECTRONICS SUPPLY CENTER AND THE VARIOUS PRODUCTS WITH WHICH EACH OF YOU ARE INVOLVED. TODAY WE HAVE A NUMBER OF MANUFACTURERS LITERALLY ALONE IN THE WOODS WITH THE CAPABILITY OF BUILDING TOP QUALITY ITEMS BUT NO ONE IS MAKING A PATH TO THEIR DOORSTEP.

THE REASON IS NOT A LACK OF INTEREST; IT'S INSTEAD A LACK OF INFORMATION ABOUT ITEMS WHICH WE IN DOD NEED AND WHICH AMERICAN INDUSTRY IS ANXIOUS TO SUPPLY. TECHNICAL DATA TRADITIONALLY HAS BEEN THE ACHILLES HEEL OF THE DEFENSE PROCUREMENT SYSTEM AND

DOD'S GOAL TO LOWER PRICES THROUGH COMPETITION. HOWEVER, WE'VE HAD LIMITED SUCCESS IN OBTAINING DATA, THAT IS UNTIL LAST YEAR WHEN THE SECRETARY OF DEFENSE IN HIS 10 POINT INITIATIVE SET FORTH AN AGENDA OF PROCUREMENT REFORM.

(SLIDE: SECRETARY OF DEFENSE MEMO)

JUST AS COMPETITION IS KEY TO THE SECRETARY'S REFORM PROGRAM, DATA IS KEY TO COMPETITION. IF WE EXPECT TO COMPETITIVELY BUY REPLACEMENT PARTS FOR A MAJOR PIECE OF EQUIPMENT AND AVERT GOING BACK TO THE ORIGINAL SUPPLIER OF THE EQUIPMENT, WE NEED TO PROVIDE INTERESTED MANUFACTURERS WITH A LARGE AMOUNT OF TECHNICAL INFORMATION SUCH AS PERFORMANCE PARAMETERS, PHYSICAL DIMENSIONS, MATERIAL REQUIREMENTS, PROCESSES INVOLVED, TEST PROCEDURES AND QUALITY ASSURANCE PROVISIONS. WITHOUT THIS COMPLETE DATA PACKAGE, THERE IS NO ASSURANCE THAT A SPARE PART WILL MATCH THE PERFORMANCE OF THE ITEM IT REPLACES.

(SLIDE: PIE CHART)

TO ILLUSTRATE HOW STARVED OUR PROCUREMENT SYSTEM IS FOR INFORMATION, ABOUT 50 PER CENT OF THE SUPPLY ITEMS IN DLA WHICH WE WOULD LIKE TO COMPETE HAVE NO TECHNICAL DATA. ON ANOTHER 20 PER CENT, THERE IS INFORMATION BUT NOT ENOUGH TO GO COMPETITIVE. FINALLY ON A SMALL PERCENTAGE, COMPANIES HAVE PLACED A LEGITIMATE EMBARGO ON THE USE OF THE DATA. SIMILARLY AT DESC, WE'RE LOCKED INTO A SOLE SOURCE ON MANY PROCUREMENTS

BECAUSE DATA IS EITHER LIMITED OR LACKING.

THIS IS NOT AN UNUSUAL PATTERN. RECENTLY A STUDY GROUP ON COMPETITIVE PROCUREMENT DATA NEEDS HEADED BY MR. JAMES N. JULIANA, A SENIOR DEPARTMENT OF DEFENSE EXECUTIVE WHO JUST RECENTLY RETIRED, ISSUED A REPORT, WHICH INCLUDED A SUMMARY OF THE TECHNICAL DATA CONDITION OF ALL EXISTING ITEMS OF SUPPLY IN THE DOD INVENTORY.

(SLIDE: ENGINEERING DATA PROFILE)

ONLY 25 PER CENT OF THE ITEMS HAVE COMPLETE DATA. OF THE REMAINING 75 PER CENT WHICH ARE RESTRICTED FROM FULLY COMPETITIVE PROCUREMENT, AT LEAST 54 PER CENT DO NOT HAVE ADEQUATE DATA.

(SLIDE: TECHNICAL DATA POSTURE - DESC)

THE STUDY GROUP FOCUSED ITS ATTENTION ON ELECTRONICS AND IN EXAMINING DESC ITEMS WITH MORE THAN $8,000 ANNUAL DEMAND OBSERVED A SIMILAR PATTERN. COMPLETE DATA EXISTS FOR ONLY 29 PER CENT OF OUR ITEMS WITH 71 PER CENT RESTRICTED FROM COMPETITION IN SOME WAY BECAUSE OF INADEQUATE DATA, SOURCE TYPE RESTRICTIONS OR LIMITED RIGHTS.

HOW MUCH OF AN IMPEDIMENT IS THIS? IN OUR COMPETITION ADVOCATE PROGRAM, WE HAVE IDENTIFIED 100 SOLE SOURCE ITEMS WE WOULD LIKE TO CONVERT TO COMPETITION. HOWEVER ONLY ONE-THIRD HAVE ADEQUATE

DATA.

SO EVEN IF A MANUFACTURER EXPRESSES AN INTEREST IN OUR PROBLEM, WE CAN'T BEGIN TO RESOLVE IT BECAUSE WE LACK THE PROPER ENGINEERING INFORMATION, DRAWINGS AND SO FORTH.

(SLIDE: CONFERENCE)

DESC HAS TAKEN SOME POSITIVE STEPS TO CORRECT THIS. IN 1984, WE VISITED SEVERAL CORPORATIONS, MET WITH THEIR TOP EXECUTIVES AND BLUNTLY ASKED THEIR COOPERATION IN RELEASING SOME OF THE CONTROLS OVER THEIR INFORMATION. THIS EFFORT HAS BEEN VERY PRODUCTIVE AND I'M AMAZED THAT WHEN YOU WAVE THE FLAG AT AMERICAN INDUSTRY AS WE HAVE THIS PAST YEAR, COMPANIES RESPOND OUT OF PATRIOTISM.

THOUGH THIS APPROACH HAS BEEN SUCCESSFUL, IT'S FAR FROM BEING SUFFICIENT. AS A CONSEQUENCE, WE AT DESC AND ELSEWHERE HAVE ENLARGED OUR VALUE ENGINEERING EFFORT AND, USING REVERSE ENGINEERING TECHNIQUES TO ANALYZE ITEMS OF SUPPLY, HAVE STARTED TO CULTIVATE OUR OWN DATA.

(SLIDE: COMPETITION)

USE OF REVERSE ENGINEERING BY GOVERNMENT TO SUPPORT PROCUREMENT ACTIVITIES IS VERY UNIQUE IN COMPARISON TO PRACTICES IN INDUSTRY. THE PRIVATE SECTOR AS A RULE DOES NOT HAVE SOURCING PROBLEMS BECAUSE IT NORMALLY HAS TECH DATA. AND IRONICALLY WHEN

COMPANIES DO REVERSE ENGINEER, IT'S NOT TO STIMULATE COMPETITION BUT RATHER TO STIFLE IT. REVERSE ENGINEERING IS A MEANS TO GET A STEP UP ON A COMPETITOR OR TO ELIMINATE HIM COMPLETELY.

LET ME SHARE WITH YOU AN EXAMPLE. ONE OF THE NEWEST PRODUCTS TO HIT THE MARKET THIS PAST SUMMER WAS THE SOFT-TYPE CHOCOLATE CHIP COOKIE. MANY FIRMS ARE COMPETING FOR A SHARE OF THIS MARKET. I UNDERSTAND THAT ONE OF THE COMPANIES IN THE HUNT MANAGED TO GET A SPOONFUL OF BATTER FROM ONE OF ITS COMPETITORS, TOOK THE SAMPLE BACK TO ITS LABS AND LITERALLY BEGAN REVERSE ENGINEERING IT TO DETERMINE THE INGREDIENTS AND WHAT MADE THE PRODUCT SO DISTINCT.

(SLIDE - DEFINITION)

BASICALLY, REVERSE ENGINEERING IS THE PROCESS OF EXAMINING A STOCK SAMPLE OF A PRESENT ITEM TO DETERMINE ITS FUNCTION, ITS MATERIAL COMPOSITION, CONSTRUCTION AND THE ELECTRICAL, PHYSICAL AND ENVIRONMENTAL REQUIREMENTS IT MUST MEET.

FROM INFORMATION GATHERED THROUGH THIS ANALYSIS, AN EQUIVALENT ITEM IS MADE WHICH CAN PERFORM THE SAME FUNCTION AS THE ORIGINAL BUT AT A LOWER COST.

TO SOME EXTENT, WE USE REVERSE ENGINEERING PRINCIPLES IN OUR WORK AROUND THE HOUSE WHEN WE NEED A PART TO REPAIR SOMETHING AND IT'S NOT AVAILABLE. WE STUDY THE SITUATION OVER AND OVER AND COME UP WITH A SUBSTITUTE THAT WILL DO THE JOB. SO REVERSE ENGINEERING

IS NOT NECESSARILY PECULIAR TO DEFENSE OR TO TECHNICALLY-ORIENTED ORGANIZATIONS SUCH AS DESC.

(SLIDE: (CRITERIA)

AT DESC, WE SELECT CANDIDATE ITEMS FOR REVERSE ENGINEERING FOR ONE OF SEVERAL REASONS:

-LIMITED PROCUREMENT SOURCES
-NONPROCURABLE/NONSUPPORTABLE
-SUSPECTED EXHORBITANT PRICE
-LIMITED RIGHTS DRAWING
-RESTRICTED RIGHTS DRAWING
-UNREASONABLE DELIVERY SCHEDULES

(SLIDE: DESC ITEMS)

WITH OVER 875,000 DIFFERENT ITEMS IN 68 SEPARATE COMMODITY CLASSES, IT IS DIFFICULT TO ESTIMATE HOW MANY DESC ITEMS WOULD FALL INTO THESE CATEGORIES EXCEPT TO SAY THAT WE HAVEN'T HAD ANY ENGINEERS ASK FOR WORK SINCE THE SECRETARY WEINBERGER MEMORANDUM CAME OUT LAST YEAR.

SOME ITEMS WE REVERSE ENGINEER ON OUR OWN WITH THE SUPPORT OF OTHER GOVERNMENT AGENCIES. OTHER PARTS, BECAUSE THEY ARE PECULIAR AND REQUIRE SPECIAL EXPERTISE, ARE ISSUED TO INDUSTRY. THE BOTTOM LINE IS WHETHER WE FEEL GOVERNMENT SERVICES CAN

REVERSE ENGINEER THE PART AND SUPPLY REQUIRED DATA. IF NOT, WE LOOK TO INDUSTRY.

THOSE ITEMS WE UNDERTAKE INVOLVE A THREE-STEP PROCESS.

(SLIDE: LABORATORY ANALYSIS)

FIRST, THE ITEM IS THOROUGHLY EVALUATED AND ALL REQUIRED INFORMATION IS OBTAINED. OUR VE ENGINEERS WORK IN COORDINATION WITH A STAFF OF APPROXIMATELY 70 DESC ELECTRONIC COMPONENT ENGINEERS AS WELL AS MATERIALS SPECIALISTS IN LABORATORIES AT WRIGHT-PATTERSON AIR FORCE BASE.

(SLIDE: DRAFTSMAN)

THE SECOND STEP IS PREPARATION OF DRAWINGS WHICH PORTRAY ALL THE PHYSICAL, ELECTRICAL AND ENVIRONMENTAL CHARACTERISTICS OF THE ITEM BY OUR ENGINEERING DRAFTING BRANCH.

(SLIDE: COMPETITIVE DRAWING)

THIRD, THE DRAWINGS ARE NEXT NUMBERED AND AN ACQUISITION METHOD CODE UPDATED TO 1 G WHICH IS COMPETITIVE. WE CAN NOW BEGIN TO SEARCH OUT ADDITIONAL SOURCES.

ON THOSE ITEMS ASSIGNED TO INDUSTRY, THE PROCEDURE IS MUCH THE SAME. BUT IT MIGHT BE HELPFUL TO USE A CHART AND GRAPHICALLY

DEFENSE GENERAL SUPPLY CENTER'S

BRIEFING ON

STANDARDIZATION OF 440 VOLT INPUT POWER CABLES FOR AVIATION GROUND SUPPORT EQUIPMENT

PRESENTED TO

DEPARTMENT OF DEFENSE VALUE ENGINEERING CONFERENCE

BY

MR. B. MONTAGUE INGRAM
VALUE ENGINEERING
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VALUE ENGINEERING

a systematic approach to cost reduction

biography

DEFENSE ELECTRONICS SUPPLY CENTER
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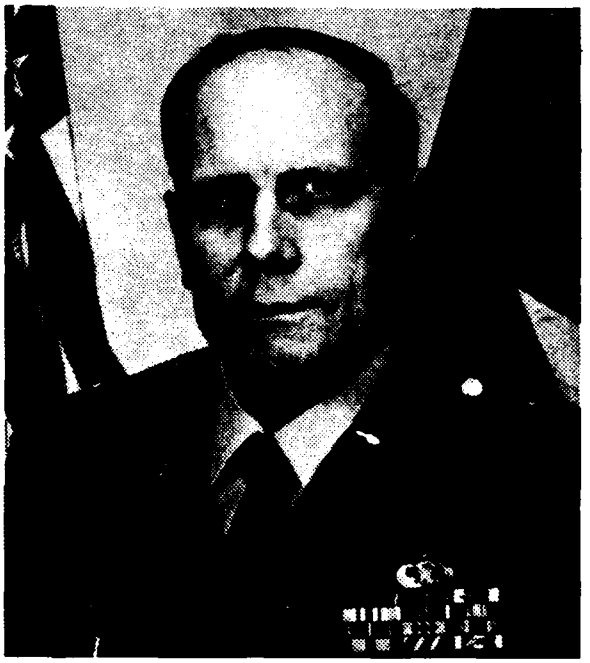
BRIGADIER GENERAL HERMAN C. KAMMER JR., UNITED STATES ARMY



BRIGADIER GENERAL HERMAN C. KAMMER, JR., United States Army, assumed command of the Defense Electronics Supply Center (DESC) on December 9, 1983.

General Kammer served as Deputy Director for Plans and Operations, Office of the Deputy Chief of Staff for Logistics, United States Army, Washington, D.C., prior to taking command of DESC.

General Kammer received his commission in 1957 from the Reserve Officer Training Corps at The Citadel, where he received a Bachelor of Arts degree. His assignments have included serving as Commander of the Division Support Command, 9th Infantry Division, Fort Lewis, Washington, from 1979 to 1982; Logistics Staff Officer, Logistics Directorate, Organization of the Joint Chiefs of Staff, Washington, D.C., from 1978-79; Commander of the 407th Supply and Services Battalion, 82d Airborne Division, Fort Bragg, North Carolina, from 1975-77; Logistics Staff Officer, Supply and Maintenance Directorate, Office of the Deputy Chief of Staff for Logistics, U.S. Army, Washington, D.C. from 1973-75; and Commander, Logistics Training Battalion, Atlanta Army Depot, Georgia, from 1970-71.

General Kammer served twice in Vietnam, the second tour in 1969-70 as Chief of the General Material Branch, Supply Division, and Air Drop Equipment Officer, Headquarters, U.S. Army Vietnam, and later as the S4, 173d Airborne Brigade.

General Kammer has a Master of Business Administration degree from the University of Alabama in Tuscaloosa. He is a graduate of the Infantry School, Basic Course; The Armor School, Advanced Course; the United States Army Command and General Staff College; and the Industrial College of the Armed Forces.

His decorations and badges include the Bronze Star Medal with four Oak Leaf Clusters; the Meritorious Service Medal with two Oak Leaf Clusters; the Joint Service Commendation Medal; the Army Commendation Medal with two Oak Leaf Clusters; the Expert Infantryman Badge; the Senior Parachutist Badge and the Ranger Tab.

General Kammer is a native of South Carolina. He and his wife, Jean, have two children, Christopher and Paula.

IN INSTANCES WHERE OTHER METHODS FAIL.

(SLIDE: YIELD)

IN TERMS OF WAYS TO INCREASE COMPETITION, REVERSE ENGINEERING REMAINS SOMEWHAT EXPENSIVE, YET IT DOES PROVIDE A COMMENSURATE DEGREE OF SUCCESS TO THE EFFORT INVOLVED. BENEFITS ARE EQUAL TO OR BETTER THAN OUR NORMAL YIELD ON REGULAR VALUE ENGINEERING PROJECTS WHICH CURRENTLY PROVIDE A 30:1 RATE OF RETURN ON INVESTMENT.

(SLIDE: PRICE, QUALITY)

AND, FINALLY, WHAT PERHAPS IS MOST ENCOURAGING ABOUT REVERSE ENGINEERING FROM AN ACQUISITION STANDPOINT IS THAT IT HELPS DOD PUT MORE ITEMS ON THE BIDDING BLOCK WHERE AMERICAN INDUSTRY CAN COMPETE AND THE CONCEPT OF FREE ENTERPRISE SERVE TO KEEP PRICES DOWN AND QUALITY UP.

(SLIDE: SPIRIT OF FREE ENTERPRISE)

MILLION THROUGH VARIOUS VALUE ENGINEERING ACTIVITIES AND ESTIMATE THAT $2.5 MILLION OF THAT AMOUNT WAS THE DIRECT RESULT OF REVERSE ENGINEERING.

(SLIDE: MOST ACTIVE COMPANIES)

IN ADDITION TO THE SAVINGS AND IMPROVED QUALITY ACHIEVED, WE ARE PLEASED THAT REVERSE ENGINEERING HAS IN ITS VERY OWN SPECIAL WAY CONTRIBUTED TO THE ECONOMY. AS I MENTIONED EARLIER, THE PROGRAM IS VERY ATTRACTIVE TO SMALLER COMPANIES AND HELPED MANY DEVELOP INTO ESTABLISHED INDUSTRIES. HERE IS A LIST OF SOME OF THE MORE ACTIVE COMPANIES WE'VE WORKED WITH IN RECENT YEARS. MANY, OF COURSE, ARE LOCAL. ALL ARE, OR AT ONE TIME WERE, SMALL. HOWEVER, THE REVERSE ENGINEERING PROJECTS AND SUBSEQUENT CONTRACTS THEY RECEIVED HAVE DIRECTLY CONTRIBUTED TO THEIR GROWTH. IN THE CASE OF AT LEAST FIVE COMPANIES, THOSE SHOWN AT THE TOP, DESC PROJECTS HAVE ACCOUNTED FOR A MAJOR PORTION OF THEIR BUSINESS VOLUME.

(SLIDE: COMPETITION)

FROM A MANAGEMENT PERSPECTIVE, REVERSE ENGINEERING LIKELY GENERATES MIXED SIGNALS. IT IS A SLOW, CUMBERSOME AND LIMITED PROCESS, YET EFFECTIVE IN UNLOCKING THE MYSTERY THAT SURROUNDS MANY NON-COMPETITIVE ITEMS IN THE DOD SYSTEM. NO LONGER SHOULD IT BE CONSIDERED AN ALTERNATE OR BACKDOOR APPROACH FOR REVERSE ENGINEERING HAS TOP DOD EMPHASIS AND A TRACK RECORD OF DELIVERING

(SLIDE: DLA)

WITHIN DLA, REVERSE ENGINEERING IS USED TO VARYING DEGREES AT THE MAJOR SUPPLY CENTERS. A SURVEY WE CONDUCTED INDICATED THAT OVER 150 REVERSE ENGINEERING PROJECTS WERE CONDUCTED WITHIN DLA DURING FY 1984. DESC WAS THE MOST ACTIVE IN THIS RESPECT WITH 95 PROJECTS.

TO ILLUSTRATE THE ACCELERATED ACTIVITY IN REVERSE ENGINEERING, THE TOTALS FOR FY 1984 WERE SIGNIFICANTLY ABOVE THE NUMBERS FOR THE PREVIOUS YEAR. FOR INSTANCE, I INDICATED WE AT DESC COMPLETED 95 PROJECTS THIS PAST YEAR. IN 1983, OUR OUTPUT WAS 15.

(SLIDE: DESC VE STAFF)

IN FY 85, WE EXPECT A SIMILAR INCREASE IN ACTIVITY. OUR OVERALL VALUE ENGINEERING STAFF HAS BEEN ENLARGED WITH TWO ENGINEERS HIRED WITH A THIRD TO COME TO FOCUS EXCLUSIVELY ON REVERSE ENGINEERING.

IN RELATION TO THE OVERALL VALUE ENGINEERING EFFORT, REVERSE ENGINEERING ACCOUNTS FOR ONLY A FRACTION OF THE WORKLOAD. WE AT DESC ESTIMATE THAT REVERSE ENGINEERING IS 15 PER CENT OF THE TOTAL PROGRAM ACTIVITY. INTERESTINGLY, IT ALSO CONTRIBUTES ABOUT 15 PER CENT OF THE OVERALL SAVINGS. DURING FY 1984, WE SAVED $17

WERE PURCHASED FROM THE ACTUAL MANUFACTURER, THE ASSEMBLY REBUILT AND INSTALLED IN THE AMPLIFIER BY THE NAVY.

HOWEVER, THE MAJOR QUESTION SURROUNDING THIS EFFORT CONTINUED TO BE WHETHER THE REBUILT ASSEMBLY HAD THE INTEGRITY OF THE OEM VERSION AND WHETHER IT MIGHT BE POSSIBLE TO HAVE THE TUBE MANUFACTURER PRODUCE THE ENTIRE SUB-ASSEMBLY. THERE WAS SOME RELUCTANCE TO REDIRECT THE PROCUREMENT SINCE THE OEM ITSELF HAD EXPERIENCED SOME QUALITY PROBLEMS IN ITS WORK, PRINCIPALLY IN THE BONDING OF A METAL CUP TO THE ELECTRON TUBE. AT THIS POINT, DESC BECAME INVOLVED AND PROCEEDED WITH THE NAVY TO FURTHER RESEARCH THE PROBLEM AND REVERSE ENGINEER THE WHOLE ASSEMBLY IN ORDER TO DETERMINE THE QUALITIES OF THE SUB-ASSEMBLY. ULTIMATELY, NECESSARY DATA WAS DEVELOPED TO ENABLE THE TUBE MANUFACTURER TO BUILD THE NEW SUB-ASSEMBLY THAT HAD THE QUALITY WE WANTED AND AT A MORE AFFORDABLE PRICE.

(SLIDE: NEW SUB-ASSEMBLY)

THIS ACTION PERMITTED US TO CANCEL SOME $2 MILLION IN REQUIREMENTS FOR THE OEM PRODUCT AND PURCHASE THE SUB-ASSEMBLIES FROM THE SECOND MANUFACTURING SOURCE. THESE SUB-ASSEMBLIES WHICH HAD COST FROM $548 TO $937 PREVIOUSLY ARE NOW BEING PROCURED FOR AS LITTLE AS $275 A COPY. USE OF THE LESS COSTLY SUB-ASSEMBLY IN THE AMPLIFIER HAS RESULTED IN A SAVINGS OF APPROXIMATELY $1 MILLION.

A TOTAL SAVINGS OF OVER $78,000 ON THE CONTRACT. YOU MAY NOTICE THAT SOME MODIFICATIONS WERE MADE TO THE CASING OF THE SWTICH, PRINCIPALLY ELIMINATING BEVELED EDGES FEATURED ON THE ORIGINAL.

(SLIDE: FOUR-TUBE AMPLIFIER)

HERE IS ANOTHER INTERESTING EXAMPLE WHERE, THROUGH REVERSE ENGINEERING BY THE GOVERNMENT, WE WERE ABLE TO BOTH SUPPLY A LESS EXPENSIVE ITEM AND ALSO MAINTAIN THE RELIABILITY OF THE PART. THIS IS A FOUR ELECTRON TUBE AMPLIFIER USED IN NAVY COMMUNICATION AND NAVIGATION SETS.

WE INITIALLY BECAME INVOLVED IN THIS PROJECT BACK IN 1981 WHEN WE LEARNED THE NAVY WAS EXPERIENCING SOME COST AND DELIVERY PROBLEMS ON COMPONENTS USED IN THE AMPLIFIER. SPECIFICALLY, THE ASSEMBLY SHOWN IN THE FOREGROUND HAD BEEN PROCURED SOLE SOURCE FROM THE ORIGINAL EQUIPMENT MANUFACTURER. THESE UNITS WERE EXPENSIVE, RANGING IN PRICE FROM $548 TO $937, AND DELIVERY WAS A PROBLEM.

(SLIDE: TUBE)

THE NAVY HAD BEGUN AN EXTENSIVE RECLAMATION PROGRAM ON THE AMPLIFIER, SALVAGING THE HARDWARE, CAPACITORS, CLAMPING PLATES, BRACKETS AND OTHER COMPONENTS AND JUST PROCURING NEW TUBES. THE OEM HAD PURCHASED ITS TUBES FROM ANOTHER SOURCE AND, SINCE THERE AREN'T MANY TUBE MANUFACTURERS STILL IN BUSINESS TODAY, THE IDENTITY OF THAT SOURCE WAS FAIRLY WELL KNOWN. THUS THE TUBES

PURCHASE REQUEST FOR 598 OF THE SWITCHES, IT SOLICITED THE SOLE SOURCE AND RECEIVED A QUOTE OF $208.

THE BUYER WAS NOT SATISFIED WITH THE PRICE AND REQUESTED ASSISTANCE FROM OUR VALUE ENGINEERING OFFICE. A VE ANALYST RESEARCHED THE PROBLEM AND AS SUSPECTED DISCOVERED THE DATA WAS PROPRIETARY. NOT HAVING SAMPLES IN STOCK, HE CONTACTED A MILITARY USER AND OBTAINED ITEMS WHICH HE IN TURN FORWARDED TO TWO MANUFACTURING SOURCES WHICH EXPRESSED PRELIMINARY INTEREST.

(SLIDE: PROTOTYPE)

ONE FIRM LOOKED AT THE SWITCH AND DECLINED.

BUT THE SECOND COMPANY PROPOSED AN ALTERNATE DESIGN AND SUBMITTED DRAWINGS AND A PROTOTYPE OF ITS VERSION OF THE ITEM. THE ANALYST SUMMONED ENGINEERING SUPPORT FROM THE NAVAL SEA SYSTEMS COMMAND TO DETERMINE IF THE ALTERNATE WAS ACCEPTABLE.

THE NAVY GAVE A CONDITIONAL OK, PENDING CERTAIN SHOCK AND ELECTRICAL TESTS WHICH THE CONTRACTOR AGREED TO CONDUCT. THE ITEM WAS ACCEPTED AND THE COMPANY ENTERED AS A SECOND SOURCE.

(SLIDE: ORIGINAL, PROTOTYPE, NEW ITEM)

SHORTLY THEREAFTER, WE PROCURED 751 SWITCHES FROM THE NEW SOURCE AT A UNIT PRICE OF $105. THIS WAS A SAVINGS OF $103 PER ITEM AND

MOST FIRMS WE KNOW, WE TURN TO RESEARCH AND POUR THROUGH REFERENCE MATERIALS THAT MIGHT TIP US OFF TO AN ELIGIBLE COMPANY.

ONE OF THE LESS FORMAL, BUT NONETHELESS EFFECTIVE, METHODS IS WORD OF MOUTH. PEOPLE IN GOVERNMENT AND INDUSTRY CALL US AND REFER THE NAMES OF COMPANIES THEY CONSIDER SUITABLE FOR THE WORK.

FINALLY, ONE OF THE MORE VISIBLE FORMS WE USE IS OUR DESC INDUSTRY DAY.

(SLIDE: INDUSTRY DAY)

IN SEPTEMBER, WE HAD OVER 400 INDUSTRY REPRESENTATIVES ATTEND THIS PROGRAM WHICH WAS HELD IN DAYTON. THE EVENT IS HELPFUL TO US BECAUSE IT ESTABLISHES CONTACT WITH PROSPECTIVE CONTRACTORS AND PERMITS US TO CULTIVATE A LEVEL OF UNDERSTANDING ABOUT VALUE ENGINEERING. OUR SEPTEMBER PROGRAM DID IDENTIFY ONE COMPANY WHICH EXPRESSED INTEREST IN REVERSE ENGINEERING VACUUM TUBE CRTs.

AT THIS POINT, LET'S LOOK AT AN ACTUAL REVERSE ENGINEERING PROJECT WHICH SUCCESSFULLY REDUCED UNIT COST OF AN ITEM BY 50 PER CENT.

(SLIDE: ORIGINAL ITEM)

THIS IS A SENSITIVE SWITCH, USED PRIMARILY ON RADAR ANTENNAS ON NAVAL SUBMARINES. WHEN OUR CONTRACTING DIVISION RECEIVED A

PROCUREMENT MUST COMPLY WITH ALL REQUIREMENTS. IF THE DATA IS DEFICIENT IN SOME AREAS, THE MILITARY SERVICE ENGINEERING SUPPORT ACTIVITY IS REQUESTED TO EVALUATE THE ALTERNATE SOURCE AND ESTABLISH ACCEPTANCE CRITERIA.

(SLIDE: LOCATING COMPANIES)

THERE ARE SEVERAL WAYS WE LOCATE COMPANIES WHO ARE ABLE AND WILLING TO DO REVERSE ENGINEERING WORK.

SOME FIRMS WE CONTACT DIRECTLY. OTHERS APPROACH US AND LET US KNOW THEY'RE IN THE BUSINESS AND VERY INTERESTED.

CERTAIN COMPANIES IDENTIFY THEMSELVES THROUGH VARIOUS FORMS OF ADVERTISING SUCH AS FORMAL ADS, LISTINGS IN INDUSTRY TELEPHONE DIRECTORIES, COMMERCIAL CATALOGS AND SPECIAL PAMPHLETS.

BECAUSE REVERSE ENGINEERING IS TAILORED TO SMALL BUSINESS, MANY FIRMS EXPRESS THEIR INTEREST IN ENGINEERING THROUGH OUR SMALL BUSINESS OFFICE.

OUR VALUE ENGINEERING PROGRAM ITSELF, OF COURSE, HAS BEEN AN EXCELLENT SOURCE FOR LEADS. COMPANIES WHICH WORK ON OTHER VE PROJECTS SUCH AS VALUE ENGINEERING CHANGE PROPOSALS COME TO US AND INQUIRE ABOUT REVERSE ENGINEERING WORK.

WHEN THERE ARE SPECIAL ITEMS WHICH SEEM BEYOND THE ABILITY OF

(SLIDE: ITEM COMPARISON)

WE HAVE OUR TECHNICAL EXPERTS CAREFULLY EVALUATE THE PROTOTYPE AND EVEN SUBMIT IT TO TESTING. SIMILAR EXAMINATION IS GIVEN THE PROPOSED PART BY TECHNICAL PEOPLE IN THE MILITARY SERVICES WHO ARE POTENTIAL USERS OF THE ITEM. ON ITEMS REVERSE ENGINEERED BY EITHER GOVERNMENT OR INDUSTRY, WE MUST ASSURE THE ALTERNATE ITEM IS EQUAL TO OR BETTER THAN THE ORIGINAL IN TERMS OF QUALITY AND THAT THE INTEGRITY OF THE END ITEM IS MAINTAINED.

(SLIDE: REVERSE ENGINEERING #7)

THE ENGINEERING VERSION IS APPROVED AND CATALOGING ACTION IS TAKEN TO ADD TO THE FIRM TO OUR FILES AS A NEW SOURCE OF SUPPLY. THE FIRM THUS BECOMES AN ELIGIBLE CONTRACTOR AND, AS OFTEN IS THE CASE, RECEIVES THE CONTRACT TO MANUFACTURE THE PRODUCT. BURKE PRODUCTS, FOR INSTANCE, RECEIVED PROCUREMENT AWARDS ON 50 PER CENT OF THE 60 ITEMS IT REVERSE ENGINEERED. OBVIOUSLY, THERE ARE RESIDUAL BENEFITS IN THE PROGRAM FOR BUSINESSES WHO DO THIS TYPE OF WORK.

(SLIDE: ITEM DATA)

IN INSTANCES WHERE WE ARE SUCCESSFUL IN DEFINING ALL ITEM REQUIREMENTS, ANY ALTERNATE SOURCE WISHING TO COMPETE FOR A

(SLIDE: REVERSE ENGINEERING #5)

AS PRUDENT BUSINESS PERSONS, CONTRACTORS LIKE BURKE CONSIDER THE PROJECT FROM SEVERAL PERSPECTIVES. DOES THE COMPANY HAVE THE NECESSARY ENGINEERING AND MANUFACTURING CAPABILITY? WHAT ADMINISTRATIVE AND FINANCIAL SUPPORT IS NECESSARY?

(SLIDE: PART EXAMINATION)

THESE FACTORS REMAIN AT ISSUE ALL THE WHILE THE COMPANY PERFORMS THE TESTING AND EVALUATION NECESSARY TO IDENTIFY MATERIALS AND ELECTRICAL/PHYSICAL CHARACTERISTICS.

(SLIDE: DRAFTSMAN WITH PROTOTYPE)

THE CONTRACTOR PREPARES A DRAWING OF THE ITEM IT PROPOSES TO SUPPLY AND MAY EVEN MANUFACTURE ONE OR MORE PROTOTYPES. THE PROTOTYPE IS REQUIRED BECAUSE THERE IS INADEQUATE OR NO TECHNICAL DATA ON THE ORIGINAL ITEM WHICH WE CAN USE TO EVALUATE THE PROPOSED PART.

(SLIDE: REVERSE ENGINEERING #6)

WHEN THE ALTERNATE PROPOSAL IS SUBMITTED TO DESC, COMPATIBILITY TESTING IS REQUIRED TO ASSURE THE PRODUCT WILL PERFORM SATISFACTORILY, MEETING ALL THE QUALITY, MAINTAINABILITY AND SAFETY REQUIREMENTS.

HAVE ON HAND.

(SLIDE: REVERSE ENGINEERING #4)

THROUGH A VARIETY OF MEANS WHICH I'LL EXPLAIN LATER, WE'RE AWARE OF MANUFACTURERS WHO MIGHT BE INTERESTED IN REVERSE ENGINEERING THE ITEM. WE CONTACT THESE AND PROVIDE SAMPLES FOR THEIR EVALUATION.

(SLIDE: BURKE PRODUCTS)

ONE SUCH COMPANY WHICH HAS HANDLED A NUMBER OF OUR REVERSE ENGINEERING PROJECTS RECENTLY IS BURKE PRODUCTS OF XENIA, OHIO. THIS SPRING, IT WAS NAMED DLA'S VALUE ENGINEERING COMPANY OF THE YEAR FOR THE WORK IT HAS DONE WITH DESC. THE COMPANY SPECIALIZES IN MANUFACTURING ELECTRONIC ASSEMBLIES AND MECHANICAL PARTS.

(SLIDE: MACHINING OPERATION)

BURKE ONLY EMPLOYS 17 PEOPLE BUT OVER THE PAST YEAR HAS REVERSE ENGINEERED SOME 60 ITEMS FOR DESC. REVERSE ENGINEERING IS APTLY SUITED FOR SMALLER COMPANIES LIKE BURKE BECAUSE LARGER FIRMS PREFER VOLUME AND USUALLY ARE NOT INTERESTED. THE SMALL BUSINESS FIRM CAN READILY PENETRATE THIS MARKET AND IN SHORT TIME BECOME WELL ESTABLISHED.

WALK YOU THROUGH THE PROCESS.

(SLIDE: REVERSE ENGINEERING PROCESS #1)

THE TRIGGER POINT IS USUALLY A BUYER OR OTHER PROCUREMENT TYPE WHO NOTIFIES OUR TECHNICAL OPERATIONS DIRECTORATE AND, IN TURN, OUR VE OFFICE, OF ITEMS WHICH APPEAR TO BE PRIME CANDIDATES FOR REVERSE ENGINEERING. BUYERS ARE TRAINED TO SPOT SUCH ITEMS BECAUSE WE INCLUDE VALUE ENGINEERING AS PART OF THEIR REGULAR ORIENTATION PROGRAM, AS WE DO FOR OTHER PERSONNEL WHOSE JOBS MAY BE INVOLVED.

(SLIDE: REVERSE ENGINEERING PROCESS #2)

THE FIRST STEP IS TO CONDUCT THE NECESSARY RESEARCH, POOLING INFORMATION FROM SUPPLY MANAGEMENT, TECHNICAL, ENGINEERING AND PROCUREMENT SOURCES TO DETERMINE OUR DATA CONDITION. WE ALSO CONTACT USERS OF THE ITEM TO OBTAIN APPLICATION DATA SINCE IT'S IMPORTANT TO KNOW HOW THE PART IS USED.

(SLIDE: REVERSE ENGINEERING #3)

IT'S AT THIS POINT THAT WE DECIDE IF ADEQUATE DATA IS AVAILABLE OR IF THERE ARE PROPRIETARY HOLDS, IN WHICH CASE WE TURN TO REVERSE ENGINEERING. HOWEVER, IF THE ITEM IS RESTRICTED, WE PULL SAMPLES FROM OUR STORAGE FACILITIES. OFTEN, THE ITEM IS NOT IN STOCK. IN THAT SITUATION, WE MAY REQUEST SAMPLES OUR CUSTOMERS

GOOD MORNING;

WE APPRECIATE THIS OPPORTUNITY TO TELL YOU ABOUT ONE OF OUR MORE INTERESTING VALUE ENGINEERING PROJECTS THAT HAS GONE OUTSIDE OF THE DEFENSE LOGISTICS AGENCY. THIS PROJECT HAS BEEN A COORDINATED EFFORT BETWEEN OUR CENTER AND THE U.S. AIR FORCE TO STANDARDIZE THE 440V INPUT POWER CABLE UTILIZED ON ELECTRIC DRIVEN SUPPORT EQUIPMENT.

BEFORE I PROCEED WITH OUR ACTUAL BRIEFING, I WOULD LIKE TO PRESENT A SHORT PRESENTATION ON THE DEFENSE GENERAL SUPPLY CENTER'S MISSION. THE INTENT OF THIS FIRST PORTION OF OUR PRESENTATION IS TO ACQUAINT YOU WITH THE IMPORTANT ROLE DGSC PLAYS IN OUR COUNTRY'S DEFENSE.

A. DGSC COMMAND BRIEFING

B. VALUE ENGINEERING STANDARDIZATION PROJECT

OUR PROJECT —CHART 1— STARTED IN OCTOBER 1983 ON THIS CONSUMABLE TRANSFER ITEM AND WAS, LIKE ANY NORMAL VALUE ENGINEERING PROJECT, TO BREAK SOLE SOURCE. THE CABLE SHOWN WAS BEING PROCURRED FROM A PRIME MANUFACTURER WHO DOES NOT MAKE CABLE ASSEMBLIES AND THE PRICE APPEARED TO BE QUITE EXCESSIVE. THIS PARTICULAR CABLE HAS SIX (6) CONDUCTORS; THREE NUMBER 3/0 AWG, TWO NUMBER 8 AWG CONTROL WIRES, AND A NUMBER 4 AWG GROUND. IT IS FIFTY (50) FEET LONG, HAS A MOLDED CONNECTOR ON ONE END WITH RING TERMINATIONS ON THE OTHER, AND WEIGHS APPROXIMATELY ONE HUNDRED SEVENTY-FIVE (175) POUNDS. OUR RESEARCH REVEALED THIS CABLE IS USED FOR THE INPUT POWER ON THE MK-3A ELECTRIC DRIVEN HYDRAULIC TEST STAND WHICH, INCIDENTALLY, IS DESIGNED IN ACCORDANCE WITH A MILITARY SPECIFICATION. FURTHER RESEARCH —CHART 2— IDENTIFIED ELEVEN OTHER

MILITARY SPECIFICATIONS AS REPRESENTED BY THE BOLD PRINT ON THIS CHART, WHICH HAVE SIMILAR GENERAL DESIGN REQUIREMENTS FOR THIS INPUT POWER CABLE. ONE OF THE SPECIFICATIONS DOES, HOWEVER, REQUIRE A ONE HUNDRED (100) FOOT CABLE. THE ONLY DIFFERENCE —CHART 3— IN ANY OF THE CABLE REQUIREMENTS ARE THE MINIMUM WIRE SIZES; AND, OF COURSE, THE ONE SPECIFICATION REQUIRING THE ONE HUNDRED FOOT LENGTH CABLE. AT THIS POINT, WE DECIDED THAT WE SHOULD TRY TO IDENTIFY ALL THE CABLES USED FOR THIS PURPOSE AND SEE HOW MANY OF THE OTHERS WERE BEING PROCURRED SOLE SOURCE.

WE TRACED —CHART 4— THE TWELVE MILITARY SPECIFICATIONS TO A TOTAL OF NINETY (90) NSNs FOR ELECTRIC DRIVEN AEROSPACE GROUND SUPPORT EQUIPMENT UTILIZING THIS INPUT POWER CABLE. THEN, WITH THE COOPERATION OF THE AIR FORCE SYSTEMS COMMAND, ANDREWS AFB, MARYLAND, MR. J. D. McCOY AND MYSELF WERE AUTHORIZED TO VISIT EDWARDS AFB, CALIFORNIA, TO RESEARCH THE END-ITEMS TECHNICAL MANUALS FOR EACH PIECE OF EQUIPMENT. THIS RESEARCH WAS A VITAL ELEMENT IN HELPING US IDENTIFY FIFTY-EIGHT (58) SEPARATE ITEMS; OF THESE, TWENTY (20) WERE CROSS-REFERENCED TO NSNs, AND THE REMAINING THIRTY-EIGHT (38) WERE ONLY IDENTIFIED BY THE MANUFACTURER'S PART NUMBER. THE IDENTIFIED CABLES WERE EITHER SOLE SOURCE TO THE END-ITEM ORIGINAL EQUIPMENT MANUFACTURER OR TO ONE OF THE THREE (3) KNOWN MANUFACTURERS (BURTON ELECTRICAL ENGINEERING, JOY MANUFACTURING OR GENERAL CABLE) OF THIS PARTICULAR TYPE CABLE. IT IS EASY TO SEE HOW THIS SITUATION OCCURRED, SINCE —CHART 5— THE IDENTIFIED NSNs WERE SCATTERED OVER SEVEN DIFFERENT FEDERAL SUPPLY CLASSES. IT SO HAPPENED THAT EIGHT OF THE IDENTIFIED NSNs WERE ALREADY MANAGED BY OUR CENTER.

AFTER FINDING PRICES ON THESE SOLE SOURCE NSNs RANGING FROM ONE THOUSAND ($1,000) TO TWO THOUSAND, TWO HUNDRED DOLLARS ($2,200) PER CABLE, WITH ABSOLUTELY NO COST CORRELATION TO THE WIRE SIZE, —CHART 6— WE REQUESTED THAT THE AIR FORCE PREPARE THIS DRAWING BASED ON OUR FINDINGS AND THE CABLE DESIGN REQUIREMENTS AS STATED IN THE REFERENCED TWELVE (12) MILITARY SPECIFICATIONS. THIS CABLE ASSEMBLY DRAWING MEETS THE GENERAL DESIGN REQUIREMENTS AND IS ACCEPTABLE IN FORM, FIT, AND FUNCTION BY ALL OF THE FIELD ACTIVITIES WE CONTACTED. THIS DRAWING HAS BEEN USED —CHART 7— COMPETITIVELY TO PROCURE TWENTY (20) CABLE ASSEMBLIES. AS YOU MAY HAVE ALREADY NOTICED, THIS DRAWING IS ASSIGNED TO A DIFFERENT NSN THAN THE ONE ON WHICH THIS PROJECT WAS ORIGINATED. I WILL EXPLAIN THE RATIONALE FOR THIS DECISION FURTHER ON IN THIS BRIEFING. THIS PARTICULAR CABLE ASSEMBLY WAS BEING PROCURED SOLE SOURCE FROM THE ACL-FILCO CORPORATION (END-ITEM MANUFACTURER), UNDER THIS 6150 NSN AT A COST OF NINE HUNDRED NINETY-SIX DOLLARS AND FIFTY CENTS ($996.50) PER CABLE. WE HAVE NOW REDUCED THE UNIT COST FROM $996.50 TO FIVE HUNDRED FIFTY-FOUR DOLLARS ($554.00) BY UTILIZING COMPETITIVE AIR FORCE DRAWING UNDER THIS NSN; THEREBY, REALIZING A FOUR HUNDRED FORTY-TWO DOLLARS AND FIFTY CENTS ($442.50) SAVINGS PER CABLE. THIS AWARD WAS MADE TO THE FEDERAL PRISON INDUSTRIES AND SHOULD BE A FAIRLY REPRESENTATIVE PRICE FOR LARGER QUANTITIES REQUIRED WHEN THE CABLE IS STANDARDIZED. IN FEBRUARY, WE BRIEFED THE AIR FORCE MAINTENANCE MANAGERS LOGISTICS CONFERENCE ON SUPPORT EQUIPMENT OF OUR PRELIMINARY FINDINGS. THEY WERE QUITE PLEASED WITH OUR IN-DEPTH RESEARCH AND REQUESTED THAT WE PROCEED WITH THE STANDARDIZATION OF THIS INPUT POWER CABLE.

AS A RESULT OF THIS BRIEFING —CHART 8— AND BASED ON INFORMATION OBTAINED FROM THE AIR FORCE, OUR BEST ESTIMATE IS THAT THERE ARE APPROXIMATELY TWENTY THOUSAND (20,000) PIECES OF ELECTRIC DRIVEN AEROSPACE GROUND SUPPORT EQUIPMENT THAT UTILIZE THIS INPUT POWER CABLE. THIS ALSO INCLUDES EQUIPMENT MAINTAINED BY THE ARMY, MARINE CORPS AND FOREIGN MILITARY SERVICES. WE ARE AWARE THAT THE NAVY USES AN INPUT POWER CABLE ESPECIALLY DESIGNED FOR SHIPBOARD APPLICATIONS AND IS NOT INTERCHANGEABLE WITH THE POWER CABLE ON THIS PROJECT. THE AIR FORCE ESTIMATES THAT THE CABLES NORMALLY LAST FIVE YEARS, BUT SEVERAL COMMERCIAL USERS HAVE STATED THAT THE LIFE EXPENTANCY IS BETWEEN SIX MONTHS AND TWO YEARS.

IT APPEARS FROM OUR INVESTIGATION, BECAUSE OF THE MANY PART NUMBERS, THAT MOST OF THE 440 VOLT INPUT POWER CABLES ARE BEING PROCURED THROUGH MILITARY LOCAL PURCHASE PROCEDURES RATHER THAN THROUGH THE FEDERAL SUPPLY SYSTEM. THIS INFORMATION WAS FURTHER VERIFIED BY BURTON ELECTRICAL ENGINEERING, ONE OF THE THREE CURRENT MANUFACTURERS OF THIS TYPE CABLE. AS STATED, THEIR COMPANY HAD FURNISHED OVER FOUR THOUSAND (4,000) OF THESE CABLES TO BASES THROUGH THE LOCAL PURCHASE PROCEDURE OR TO AN ELECTRICAL SUPPLY HOUSE CLOSE TO A MILITARY INSTALLATION IN THE PAST YEAR. INCIDENTALLY, IT APPEARS PROBABLE THAT THIS COMPANY IS NOT THE LARGEST SUPPLIER OF THESE CABLES. THIS IS WHY WE HAVE COORDINATED OUR EFFORTS WITH THE AIR FORCE TO ESTABLISH A REALISTIC DEMAND USAGE AGAINST THIS STANDARDIZED FIFTY (50) FOOT CABLE. THE AIR FORCE LOGISTICS COMMAND/CFST, WRIGHT-PATTERSON AFB, OHIO, CONDUCTED A COMMAND SURVEY TO OBTAIN THEIR FIRST YEAR REQUIREMENTS. THE RESULTS OF THIS SURVEY REFLECTED AN ANTICIPATED REQUIREMENT OF 1,173 CABLES.

HOWEVER, WE ARE RECOMMENDING AN INITIAL BUY FOR 2,145 CABLES. THIS LARGER QUANTITY BUY IS BASED ON THE ANTICIPATED INFLUX OF REQUIREMENTS FOR THIS STANDARDIZED CABLE ONCE THE ARTICLE CONCERNING THIS PROJECT IS PUBLISHED IN BOTH THE AIR FORCE AND ARMY'S MAINTENANCE MAGAZINES. AND, IN ORDER NOT TO DISCOURAGE THE MILITARY USERS OF THIS STANDARDIZED CABLE BY BACKORDERS WE WANT TO MAINTAIN A STOCK-ON-HAND POSITION.

THE RECOMMENDED BUY FOR AN ODD NUMBER SUCH AS 2,145 CABLES, WHICH I AM SURE YOU HAVE ALREADY QUESTIONED, IS BASED ON THE LARGEST CABLE CONDUCTOR BEING FURNISHED IN 25,000 FOOT REELS. EACH CABLE ASSEMBLY REQUIRES A TOTAL OF 150 FEET FOR THE THREE LARGER CONDUCTORS. THIS WOULD ALLOW THE AWARDED CONTRACTOR(S) TO ASSEMBLY 165 CABLE ASSEMBLIES WITH A ONE PERCENT LOSS FOR TOLERANCES AND ERROR. HOPEFULLY, THIS PROCEDURE WOULD ALSO GENERATE A FURTHER COST REDUCTION, SINCE THE CONTRACTOR(S) WOULD NOT HAVE TO PURCHASE AN ADDITIONAL REEL; FOR EXAMPLE, TO ASSEMBLE A REQUIEMENT FOR 180 CABLE ASSEMBLIES. THIS IS THE RATIONALE FOR FURTHER RECOMMENDING THE PROCUREMENT IN INCREMENTS OF 165 EACH.

IN CONSIDERATION OF THE AIR FORCE'S COMMAND SURVEY AND THE ANTICIPATED REQUIREMENTS, AND A HISTORICAL PRICE BASED ON A WEIGHTED AVERAGE, WE BELIEVE THIS PROJECT WILL SAVE APPROXIMATELY TWO MILLION DOLLARS IN THE FIRST YEAR OF IMPLEMENTATION.

WHEN ALL ACTION INITIATED IS COMPLETED — CHART 9— WE WILL HAVE A SITUATION IN WHICH EACH SPECIFICATION CITES THE APPROPRIATE AIR FORCE DRAWING FOR A STANDARDIZATION CABLE; i.e., EITHER THE FIFTY (50) OR ONE HUNDRED (100) FOOT CABLE. THIS STANDARDIZATION CABLE WOULD THEN CREATE A COMPETITIVE PROCUREMENT POSITION BETWEEN THE THREE KNOWN MANUFACTURERS OF THIS SPECIFIC

TYPE CABLE, AS WELL AS, FEDERAL PRISON INDUSTRIES. FURTHERMORE, THIS SYSTEM WOULD ELIMINATE THE CURRENT AND FUTURE SOLE SOURCE PROLIFERATION OF NSNs TO THE END-ITEM MANUFACTURERS OR THEIR APPROVED VENDOR SOURCES OF SUPPLY.

THIS BRINGS US TO THE CURRENT STATUS OF OUR PROJECT. —CHART 10— AT THE PRESENT TIME, WE HAVE TAKEN THE ACTIONS AS FOLLOWS:

1. CATALOGING ACTION HAS BEEN INITIATED ON THE CABLE ITEMS IDENTIFIED ONLY BY A MANUFACTURER'S PART NUMBER TO BE ADDED TO THE DGSC MANAGED 6150 NSN.

2. CATALOGING ACTION HAS BEEN INITIATED AGAINST THE DGSC MANAGED NSNs TO CANCEL-USE THE 6150 NSN.

3. CATALOGING ACTION HAS BEEN INITIATED AGAINST THE AIR FORCE NSNs TO CANCEL-USE THE 6150 NSN.

4. FIRST BUY IS BEING INITIATED.

5. PREPARING ARTICLE FOR BOTH THE AIR FORCE AND ARMY'S MAINTENANCE MAGAZINES.

NOW WITH YOUR PERMISSION, I WOULD LIKE TO REFER BACK TO A PREVIOUS CHART REFLECTING THE NUMBER OF FSCs IN WHICH THESE CABLES WERE DISCOVERED —CHART 11— AGAIN, AS I HAD PREVIOUSLY DISCUSSED, THESE CABLES WERE FOUND IN SEVEN (7) DIFFERENT FSCs. IF I MAY DIGRESS FOR A MOMENT FROM THE SUBJECT I AM ABOUT TO DISCUSS, I WOULD LIKE TO EXPLAIN OUR RATIONALE IN THE USE OF FSC 6150 FOR TWO STANDARDIZED INPUT POWER CABLES. THIS DECISION WAS BASED ON THIS 6150 FEDERAL STOCK CLASS FOR MISCELLANEOUS ELECTRIC POWER AND DISTRIBUTION EQUIPMENT CONTAINING ELECTRIC POWER CABLE ASSEMBLIES AS BEING THE MOST SUITABLE OR APPROPRIATE CLASS FOR THESE ITEMS. GOING BACK TO THE SUBJECT AT HAND — THE

CATALOGING RULES ALLOW THESE CABLE ASSEMBLIES TO BE CODED IN FSC 5995 FOR RADIO FREQUENCY CABLE, TO 6105 FOR ELECTRICAL POWER CABLES, OR TO THE SAME FSC FOR THE END-ITEM SYSTEM.

THEREFORE, BASED ON THIS PROJECT'S FINDINGS —CHART 12— WE HAVE INITIATED A PROPOSAL TO MAKE THE CLASSIFICATION OF ALL CABLE ASSEMBLIES MANDATORY IN ONE OR TWO BASIC FSCs; I.E., EITHER FSC 5995 FOR RADIO FREQUENCY CABLES OR 6150 FOR ELECTTRICAL POWER CABLES, SINCE WE HAVE FOUND CABLE ASSEMBLIES IN APPROXIMATELY ONE HUNDRED (100) DIFFERENT FSCs. WE KNOW OF NO DISADVANTAGES TO THIS PROPOSAL AND BELIEVE IT WILL HELP TO PRECLUDE THE UNNECESSARY PROLIFERATION OF NSNs IN THE FEDERAL SUPPLY SYSTEM UNDER THE CURRENT SYSTEM USE. ADDITIONALLY, ACCEPTANCE OF THIS PROPOSAL WOULD AID IN THE MILITARY PARTS CONTROL PROGRAM AND IMPROVE THE EFFECTIVENESS OF ITEM REDUCTION STUDIES ON CABLE ASSEMBLIES.

IN CLOSING, WE FEEL, AND I AM SURE YOU ARE ALREADY AWARE OF, ACCEPTANCE OF THIS PROPOSAL WOULD PROVIDE DoD WITH A UNIFIED FRONT TO INDUSTRY ON CABLE ASSEMBLIES. AT THIS TIME I WILL ADDRESS ANY QUESTIONS ON THIS PROJECT OR THE PROPOSAL.

THANK YOU VERY MUCH!!!!!!!!!!!!!!!!!!!!!!!!!

NSN 4920-00-769-2072
CABLE ASSEMBLY, SPECIAL PURPOSE

PART NUMBER: A599-2-5230

SUN ELECTRIC CORPORATION
(END-ITEM EQUIPMENT MANUFACTURER)

UNIT COST: $1,640.00

ANNUAL REQUIREMENT: 40 UNITS

TOTAL ANNUAL COST: $65,600.00

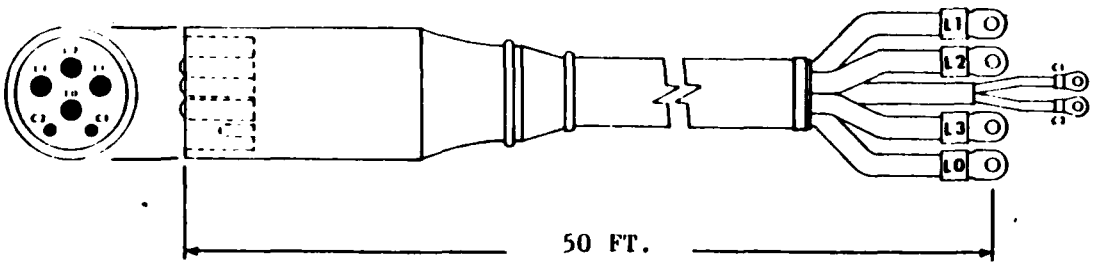


CHART NO. 1

TARGETED END-ITEM MILITARY SPECIFICATIONS
FOR
CONSOLIDATION OF INPUT POWER CABLES

1. MIL-T-7610A(USAF), Notice 1, 1 October 1974
   Test Stand, Hydraulic System, Electric Motor Driven, Type D-6A

2. MIL-C-8499D(USAF), 8 June 1971
   Compressor, Air Electric Motor Driven, Portable, Type, MB-2A

3. MIL-C-9002F(USAF), 3 October 1975
   Compressor, Power Driven, Air, Electric Motor Driven, 15 CFM, 3,500 PSI, Type MB-1

4. MIL-S-2600B(USAF), 29 October 1963
   Stand, Test, Aircraft Hydraulic System, Electric Motor Driven, Type MK-1

5. *MIL-T-26017C(USAF), 2 February 1972*
   Test Stand, Hydraulic System Components, Type ME-3A (Stand, Test, Aircraft Hydraulic System, Electric Motor Driven, Type ME-3A)

6. MIL-T-26139A(USAF), Amendment 2, 15 May 1963
   Tester, Pressurized Cabin Leakage, Aircraft AF/M24T-3

7. MIL-T-26398D(USAF), 7 February 1967
   Test Stand, Aircraft Hydraulic System, Trailer-Mounted, A/M27T-2, Electric-Motor-Driven, Triple System

8. MIL-T-26140A(ASG), Notice 1, 1 October 1974
   Tester, Pressurized Cabin Leakage, Aircraft, AF/M24T-2

9. MIL-A-26624B(UASF), 10 September 1981
   Air Conditioner, A/M32C-5, Trailer Mounted, Vapor Cycle, Electric Motor Driven

10. MIL--A-26846A(USAF), 26 September 1958
    Air Conditioner, A/M32C-4, Trailer Mounted, All Weather, Electric Motor Driven

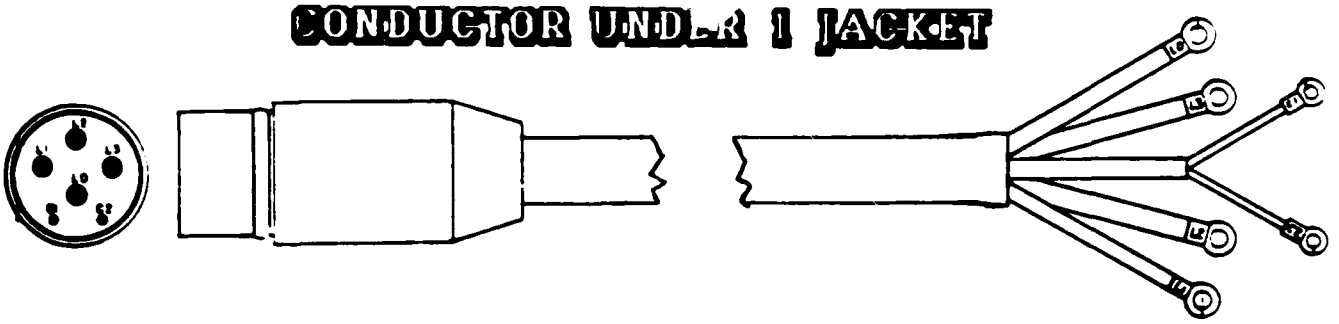
11. MIL-A-27491A(USAF), Notice 1, 1 October 1974
    Air Conditioner A/M32C7, Trailer Mounted, Vapor Cycle, Electric Motor Driven, Auxilliary Blower Required

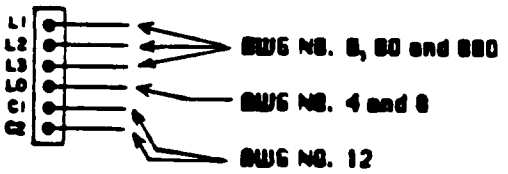
12. MIL-T-38147A(USAF), 9 February 1973
    Test Stand, Aerospace Vehicle Hydraulic Systems, General Specifications for

CHART NO. 2

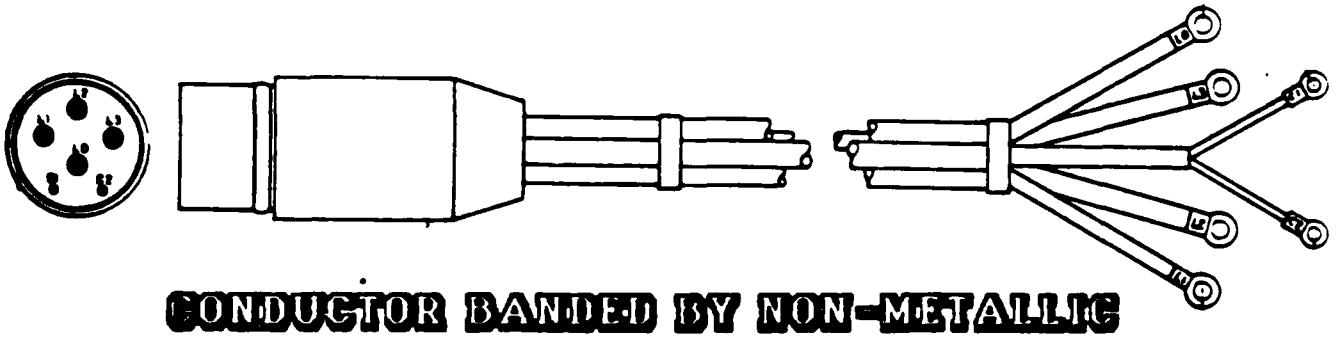
CABLE STYLES AND VARIOUS GAGES

CONDUCTOR UNDER 1 JACKET





OR



CONDUCTOR BANDED BY NON-METALLIC OR METALLIC STRAPS

CHART NO. 3

END ITEM SPECIFICATIONS

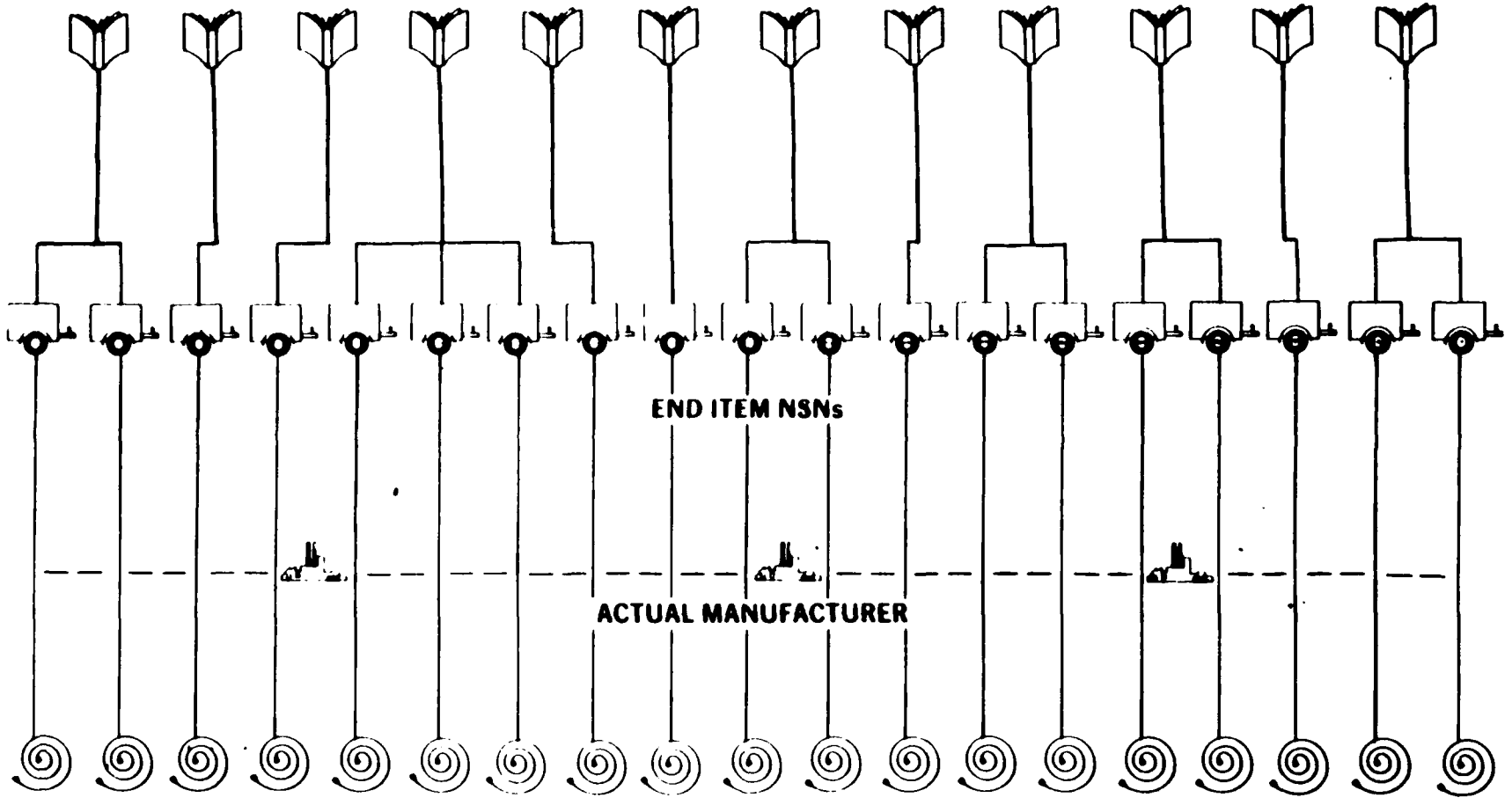


CHART NO. 4

440 VOLT INPUT POWER CABLE ASSEMBLY

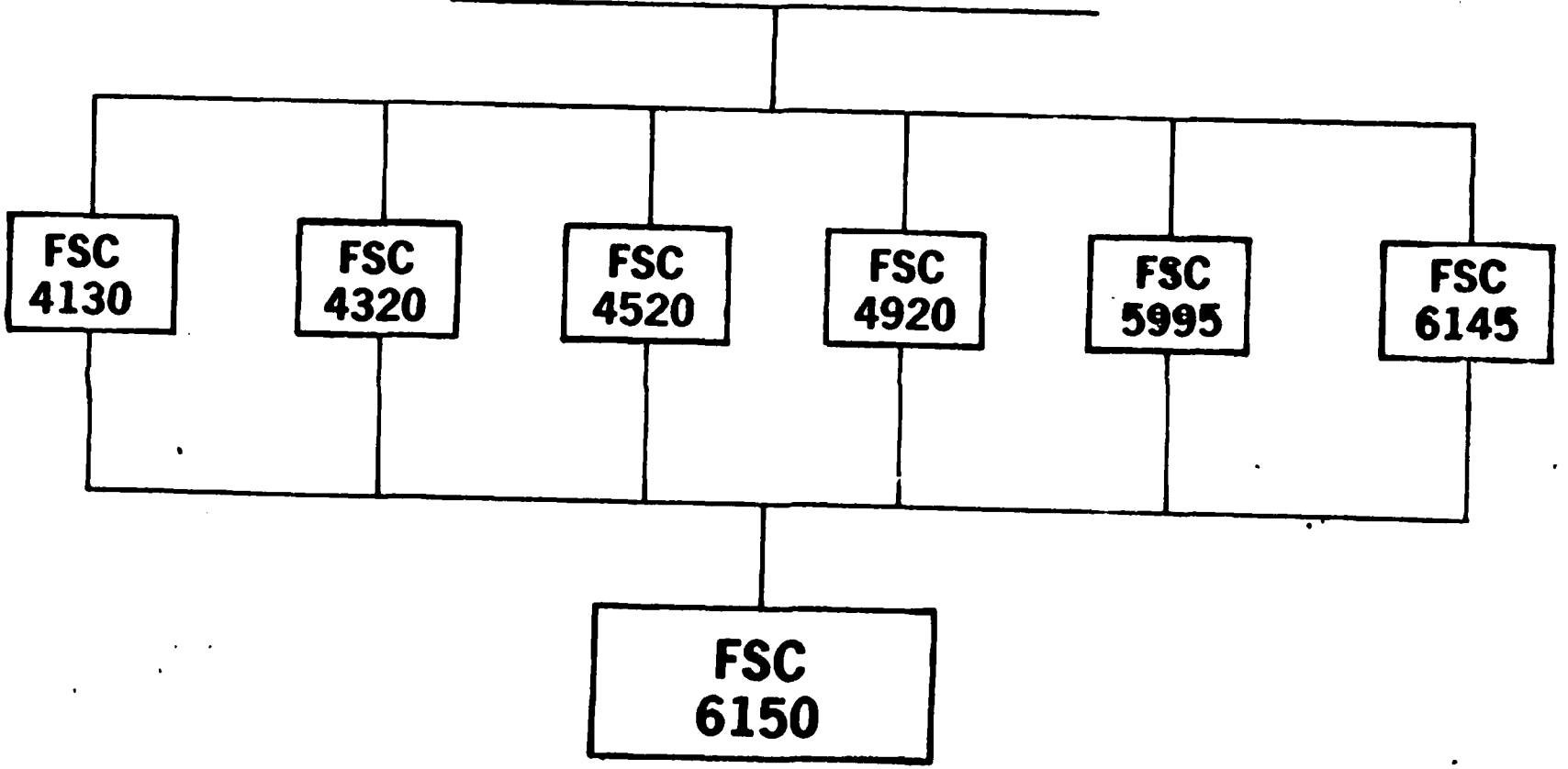


CHART NO. 5

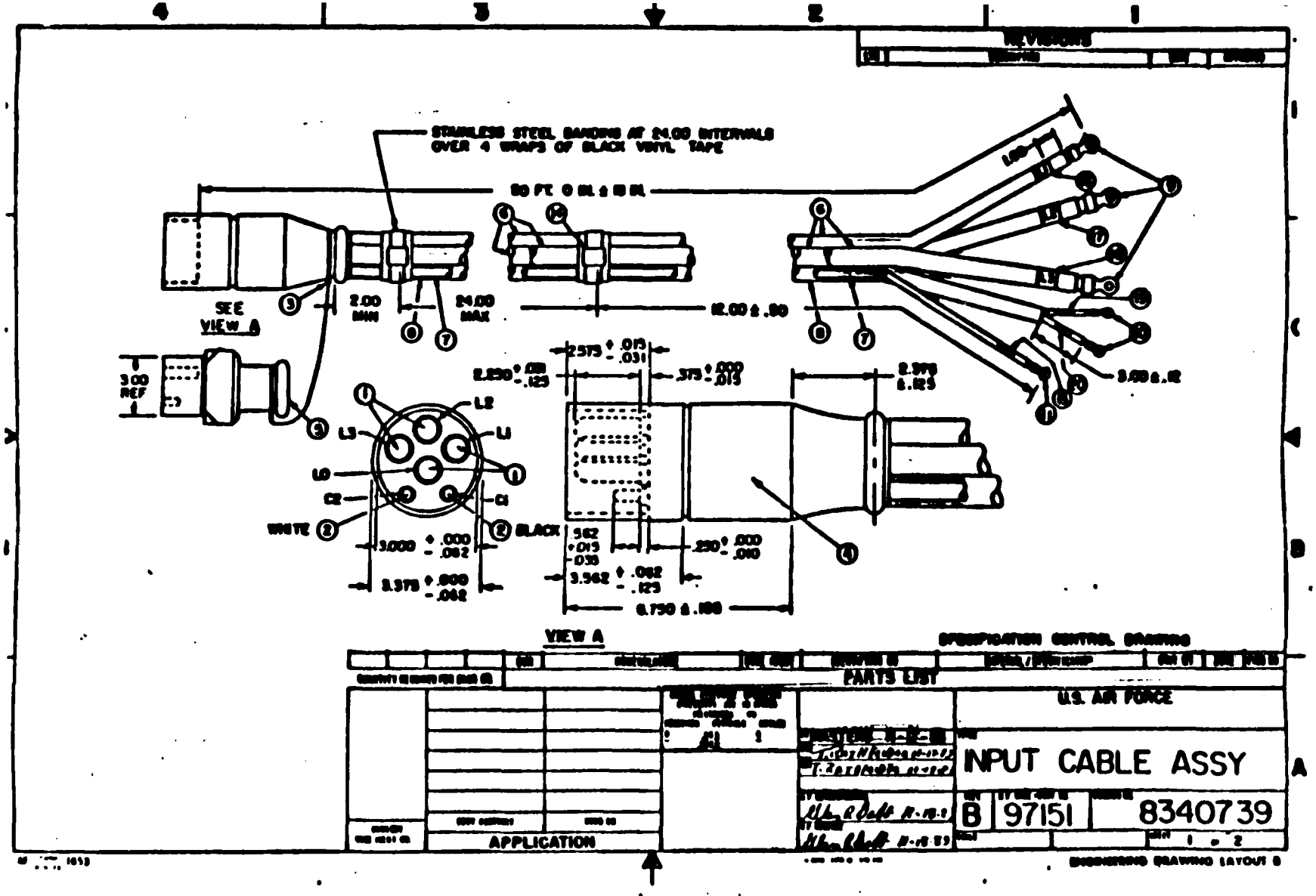
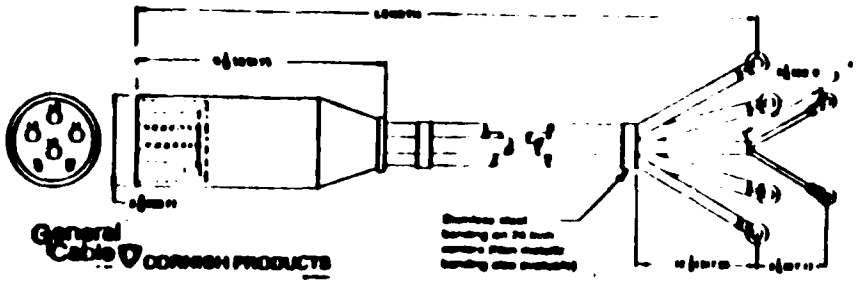
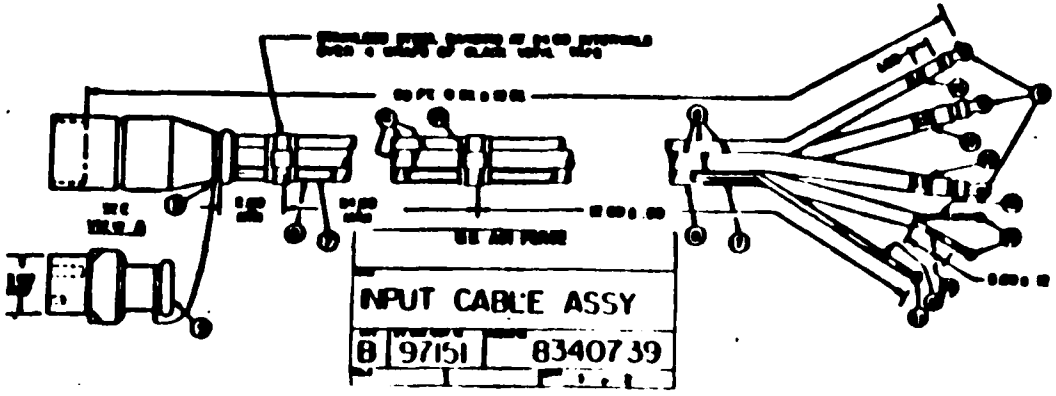

REVISIONS
STAINLESS STEEL BANDING AT 24.00 INTERVALS
OVER 4 WRAPS OF BLACK VINYL TAPE
SEE VIEW A
2.00 MIN
24.00 MAX
3.00 REF
L2
L3
L1
L0
C2
C1
WHITE
BLACK
VIEW A
SPECIFICATION CONTROL DRAWING
PARTS LIST
APPLICATION
U.S. AIR FORCE
INPUT CABLE ASSY
B
97151
8340739
ENGINEERING DRAWING LAYOUT B

CHART NO. 6





6150-01-125-4168

UNIT COST BEFORE VE

$996.50

UNIT COST AFTER VE

$554.00

TOTAL UNIT SAVINGS

$442.50

VALUE ENGINEERING

a systematic approach to cost reduction

CHART NO. 7

GIDEP

- GOVERNMENT - INDUSTRY DATA EXCHANGE PROGRAM
- SHARING EXISTING KNOWLEDGE
- REDUCING TIME AND MONEY
- LOCATED - FLEET ANALYSIS CENTER CORONA, CALIFORNIA
- PARTICIPANTS - GOVERNMENT/INDUSTRY USERS OF PARTS/COMPONENTS/MATERIALS

VEDIGARS - WHAT

- VALUE ENGINEERING DATA INFORMATION STORAGE AND RETRIEVAL SYSTEM
- TWO YEAR PILOT PROGRAM
- DATA BASE OF ACCEPTED AND IMPLEMENTED VEP's/VECP's
- IMPLEMENTED THRU GIDEP

VEDISARS - WHY

- RESPOND TO SECDEF INITIATIVE TO CUT COST OF SPARES
- ESTABLISH SOURCE OF PROVEN COST SAVING IDEAS
- SHARE IDEAS AMONG SERVICES AND INDUSTRY

VEDISARS

VALUE ENGINEERING DATA INFORMATION STORAGE AND RETRIEVAL SYSTEM

LAURENCE W. PAULSON

DEPARTMENT OF DEFENSE

PRODUCT ENGINEERING SERVICES OFFICE

CAMERON STATION

ALEXANDRIA, VA 22314

TEL: (703) 756-2320

Participants can use the hard-copy indexes to retrieve specific data from the microfilm cartridges, utilizing a microfilm reader-printer. Hard-copy indexes are prepared in various formats depending upon anticipated usage.

Participants having remote terminal equipment, compatible with the Operation Center's Computer, may be authorized direct query access to the GIDEP data banks using a simplified operator's manual.

Data search service and other assistance in use of the program is always available by contacting the GIDEP Operations Center.

A "Policies and Procedures Manual" and "Representative's Handbook" which prescribe the rules and guidelines for data submittal and in-house utilization are provided to all participants at time of entry into the program.

WHAT DOES IT COST?

GIDEP participants are not subject to any fees or assessments. However, each participating organization must provide an internal program operation to include at least one Representative, a microfilm reader or reader-printer, and adequate working area within its facility. In industry these expenses are not normally underwritten by the government, regardless of contract status, since the savings and cost avoidance accuring from proper program usage should far exceed the internal operating costs. The only area of additional costs to the participant would be for utilization of the MIS system for requests which require efforts beyond those available from base-line funding.

In DoD-NASA organizations, participation in GIDEP may be mandatory through application of one of the following regulations:

- Army AMC Regulation 70-56 of 26 September 1972
- Navy NMC Instruction 5200.35A of 10 June 1975
- Air Force AFSC/AFLC Regulation 800-20 8 March 1976
- NASA Management Instruction 5310.2B of 1 June 1976
- MIL - STD - 1556A(AF) of 29 February 1976

HOW DOES ONE JOIN?

Participation requirements or additional information about GIDEP may be obtained by contacting the Director, GIDEP Operations Center, Corona, California 91720, Telephone: (714) 736-4677, (Autovon): 933-4677.

THE GOVERNMENT ADVISORY GROUP (GAG) consists of one representative appointed from the headquarters of each major government agency participating in the GIDEP. The Government Advisory Group functions as a consultant to the Program Manager. Government agencies entering the Program are encouraged to designate a representative to this Group. This Group maintains liaison with agency offices to assure that Program policy serves the needs of all government participants.

THE INDUSTRY ADVISORY GROUP (IAG) consists of industry participant representatives who have been elected by the industry membership. This Group functions as a consultant to the Program Manager. It consolidates and defines the position of industry on program technical definition and operation in order that the Program Manager may be kept informed of the needs of industry participants.

THE GIDEP OPERATIONS CENTER implements the functions of the GIDEP as directed by the Program Manager's Office. All program operations and processing are conducted at the Operations Center. This includes development and dissemination of administrative and operational procedures and program documentation. The GIDEP Operations Center is located at the facilities of the Fleet Analysis Center, Corona, California.

A GIDEP PARTICIPANT may be either a government or industry activity engaged in the design, development, test, production, or support of equipment and systems. Participants are primarily users of parts, components, and materials, rather than manufacturers of these items.

THE GIDEP REPRESENTATIVE is the individual who has been appointed by each industrial or governmental participating organization as their single contact point for the program. The assigned responsibility of the GIDEP Representative is to function as the in-house program control center for the participating organization. The representative is the primary key to overall program success and is organizationally located to assure awareness of the activity's overall programs and has the authority and capability to determine areas of interest for GIDEP data utilization and data sources for acquisition and submission into the program.

HOW DOES IT OPERATE?

Since the inception of GIDEP, emphasis has been placed upon the rapid transmission of current information directly to potential users, and upon having the information readily available upon demand. The philosophy is to have the information waiting for the user, rather than the user waiting for the information.

There are two categories of data distribution in GIDEP: full (A), or partial (B), depending upon the organization's needs. If a full participant, microfilmed data banks, indexes, and all associated documentation are maintained within the participant organization. If a partial participant, all program materials, including data indexes but excluding the microfilm data bank, are provided. Partial participants locate specific data in the indexes and request copies from the Operations Center. Partial participants may convert to full participation status when their degree of utilization justifies their maintenance of a microfilm data bank.

Each participant, depending upon the data interchanges that are involved, submits test reports, calibration procedures, failure rate/mode data, failure experience data and related technical information to the GIDEP Operations Center. These documents are normally generated incident to ongoing tasks or contractual requirements and are not prepared solely for GIDEP. The GIDEP Operations Center reviews, processes, computer indexes, and microfilms such documents for distribution to participants.

A MANUFACTURER may submit certifiable test reports detailing test results and inspections on devices and equipment of their manufacturer as part of the GIDEP data base. The testing can be conducted at either the manufacturer's facilities, Government facilities or independent facilities. The test data furnished by manufacturers will afford an opportunity to provide product performance capabilities to a broader base of prospective "users" in Government and Industry.

GIDEP has a rapid data retrieval system which makes the microfilmed information in the data banks immediately accessible to all participants through either hard-copy indexes or the use of remote computer terminal index search.

SPECIAL SERVICES

Three SPECIAL SERVICES are provided within GIDEP. The ALERT system, which notifies the participant of problem areas; the Urgent Data Request (UDR) system, which allows a GIDEP participant to query all other GIDEP participants on specific problems and the Metrology Information Service (MIS) which provides rapid response to GIDEP participants on queries related to test equipment and measurement services. The MIS system also includes an extensive research capability which is available to participants on a fee basis.

The ALERT system provides the GIDEP participant with identification and notification of actual or potential problems on parts, components, materials, manufacturing processes, test equipment, or safety conditions. The initiator of the ALERT coordinates the ALERT with the manufacturer (vendor) when applicable, then forwards it to the GIDEP Operations Center for distribution to all participants.

The UDR system permits any participant with a technical problem to rapidly query the scientific and engineering expertise of all participant organizations. A UDR form is initiated by the member and sent to the GIDEP Operations Center for distribution to all participants. Responses are provided directly to the person making the query and are also incorporated into the appropriate data interchange.

Utilizing the extensive metrology information and expertise available at the GIDEP Operations Center, the MIS system provides GIDEP participants with the capability to obtain technical information and research efforts on metrology and test related requests. Requests which require efforts beyond the GIDEP base-line funding will be undertaken only with additional funding from the requestors. The research and expertise available encompasses the areas of research, development, test and evaluation of measuring instruments and their application to all facets of support, maintenance and performance of prime equipment. Outputs are intended to provide practical solutions to specific problems.

WHAT CAN IT DO?

With a little planning and initiative, the information available in the GIDEP can be profitably applied in every step of the system design, development, production, and support process. Design engineers will find a ready source of proven parts information to meet specific applications; the nonstandard parts data packages are of great value during design and parts selection; reliability engineers find the failure rate and mode information invaluable; and the continuous flow of safety and potential or actual failure experience information may preclude a system malfunction at any step of the way. Logisticians find the GIDEP information useful in projection support and resupply requirements. Production engineers frequently find new and innovative techniques in these data interchanges to expedite operations or to reduce production costs. The most important aspect of all is the broad range of direct contacts in almost every technological area.

GIDEP participants are dedicated to cooperative efforts in the interests of economy and efficiency. The growth and effectiveness of the ALERT and UDR systems are positive indications of the spirit which pervades the program.

WHO OPERATES IT?

The GIDEP Charter was issued on behalf of the Joint Logistics Commanders and established the GIDEP organization. This organization provides for full interaction of Government and Industry activities.

THE PROGRAM MANAGER has overall responsibility for and exercises executive authority over the planning, direction, and operation of the GIDEP. His office is located at Headquarters, Naval Material Command, Navy Department, Washington, DC.

THE PROGRAM DIRECTOR has responsibility for the operation of the Program as directed by the Program Manager and assures that all facets of the Program are diligently and effectively executed. His office is located at the facilities of the Fleet Analysis Center, Corona, California.

WHAT IS IT?

The GIDEP (Government-Industry Data Exchange Program) is a cooperative activity between Government and Industry participants seeking to reduce or eliminate expenditures of time and money by making maximum use of existing knowledge. The program provides a means to exchange certain types of technical data essential in the research, design, development, production and operational phases of the life cycle of systems and equipment.

The program is centrally managed and funded by the Government. Its participating organizations are: the United States Army, Navy, Air Force, Department of Labor, Defense Logistics Agency, General Services Administration, National Aeronautics and Space Administration, Federal Aviation Administration, Department of Energy, U.S. Postal Service, National Bureau of Standards, and the National Security Agency as well as the Canadian Department of Defence and includes hundreds of industrial organizations. A limited data exchange on electronic parts and components has also been arranged with the European EXACT program.

As a result of government emphasis on commercial off-the-shelf items, any activity which uses and/or generates the types of data GIDEP exchanges may be considered for membership. The program specifically excludes classified and proprietary information.

Participants in GIDEP are provided access to the four major data interchanges listed below. The proper utilization of the data associated with these interchanges can assist in the improvement of quality and reliability and reduce costs in the development and manufacture of complex systems and equipment.

- Engineering Data Interchange
- Metrology Data Interchange
- Reliability-Maintainability Data Interchange
- Failure Experience Data Interchange

THE ENGINEERING DATA INTERCHANGE contains engineering evaluation and qualification test reports, nonstandard parts justification data, parts and materials specifications, manufacturing processes, and other related engineering data on parts, components, materials, and processes. This data interchange also includes a section of reports on specific engineering methodology and techniques, air and water pollution reports, alternate energy sources, and other subjects.

THE RELIABILITY-MAINTAINABILITY DATA INTERCHANGE contains failure rate/mode and replacement rate data on parts, components and materials based on field performance information and/or reliability demonstration tests of equipment, subsystems and systems. This data interchange also contains reports on theories, methods, techniques, and procedures related to reliability and maintainability practices.

THE METROLOGY DATA INTERCHANGE contains metrology related engineering data on test systems, calibration systems, and measurement technology and test equipment calibration procedures, and has been designated as a data repository for the National Bureau of Standards (NBS) metrology related data. This data interchange also provides a Metrology Information Service (MIS) for its participants.

THE FAILURE EXPERIENCE DATA INTERCHANGE contains objective failure information generated when significant problems are identified on parts, components, processes, fluids, materials, or safety and fire hazards. This data interchange includes the ALERT and SAFE-ALERT data, failure analysis and problem information data.

Organizations may participate without charge in any or all of the above data interchanges by agreeing to abide by preestablished requirements for participation.

MANUFACTURER TEST DATA AND REPORTS. The GIDEP data base also includes certified test reports from manufacturers detailing test results and inspections conducted on devices of their manufacturer. Test data pertains to commercial as well as military and high reliability devices. The availability of this test data in the GIDEP provides participants the opportunity to profitably apply the data in every phase of system design, development, production and support process.

A recent addition to GIDEP's data interchanges has been the Aeronautical Depot Maintenance Industrial Technology (ADMIT) program which exchanges data on special equipment and processes utilized in the overhaul and maintenance of aeronautical systems and components. This data interchange is presently limited to participating government agencies.

Program Summary

ABSTRACT

This brochure provides a general familarity with the GIDEP (Government-Industry Data Exchange Program), a useful tool for the conservation of time, personnel and money through the reduction of redundant technical effort among Government and Industry design, research, development, engineering and procurement programs.

JUNE 1979

PROPOSED RECLASSIFICATION OF CABLE ASSEMBLIES

Cable Assemblies
Found
In Approximately
100 Different FSC's

TWO PROPOSED CLASSIFICATIONS

FSC 5995	FSC 6150
RF	POWER
COMMUNICATION	ELECTRICAL

A. DISADVANTAGES:

There are no known disadvantages to classifying cable assemblies in FSC 5995 or 6150

B. ADVANTAGES:

1. CONTROL AND REDUCE PROLIFERATION OF UNNECESSARY ITEMS IN THE FEDERAL SUPPLY SYSTEM.

2. DGSC IS THE MILITARY PARTS CONTROL ADVISORY GROUP FOR 6150.

3. ITEM REDUCTION EFFORETS WOULD BE MORE EFFECTIVE

CHART NO. 12

440 VOLT INPUT POWER

CABLE ASSEMBLY

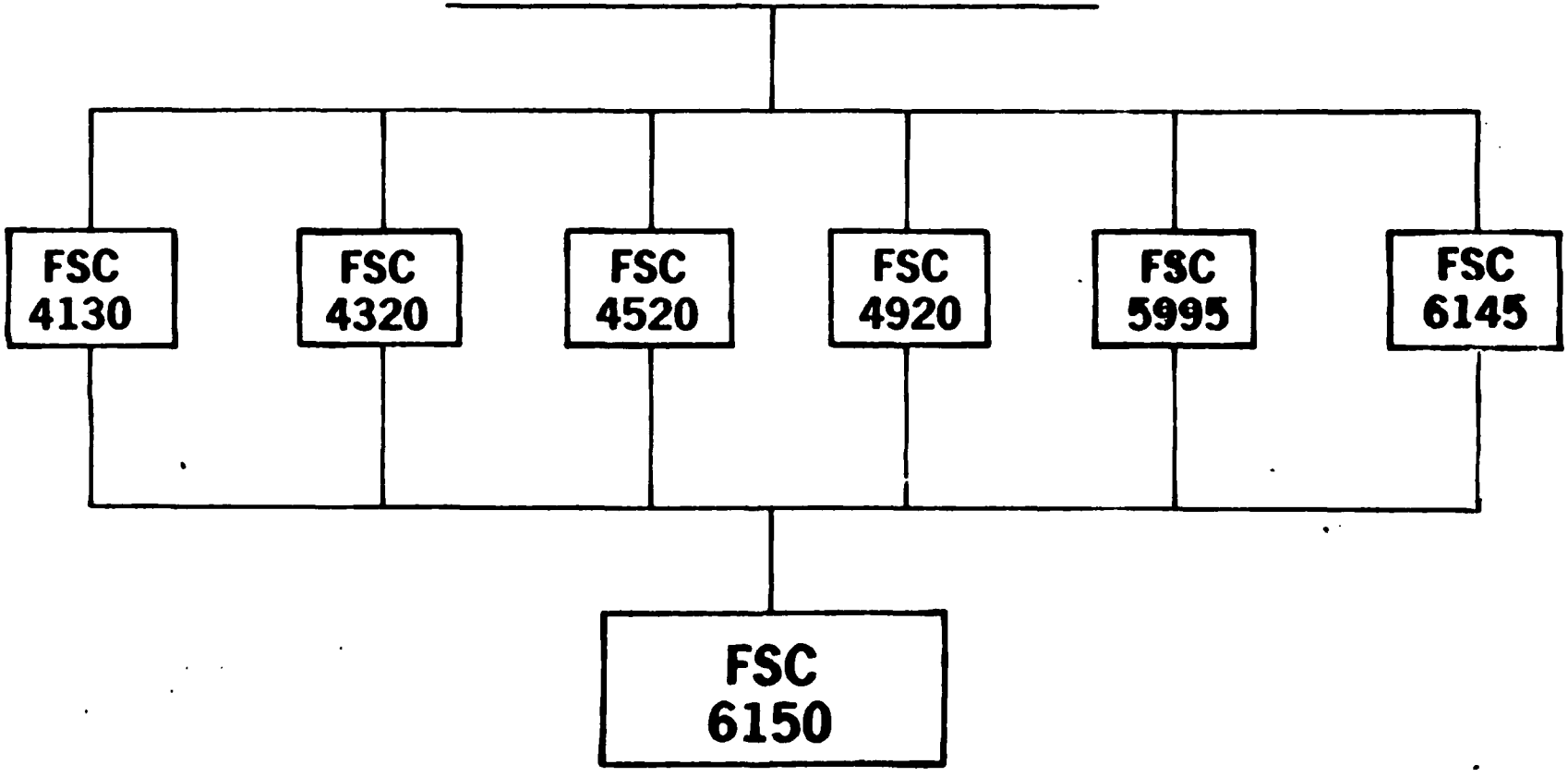


CHART NO. 11

CURRENT STATUS OF PROJECT

PART NUMBER CATALOGING CHANGES INITIATED

DLSC NSN'S CATALOGING CHANGES INITIATED

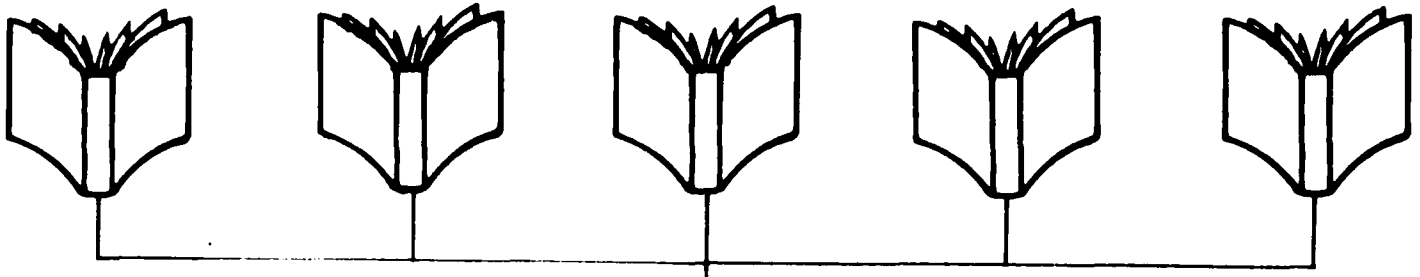
ITEM TRANSFERS FROM THE AIR FORCE INITIATED

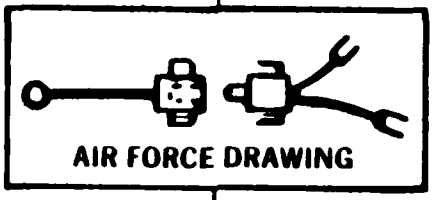
FIRST BUY IS BEING INITIATED

PREPARING ARTICLE FOR BOTH THE AIR FORCE AND ARMY'S MAINTENANCE MAGAZINES

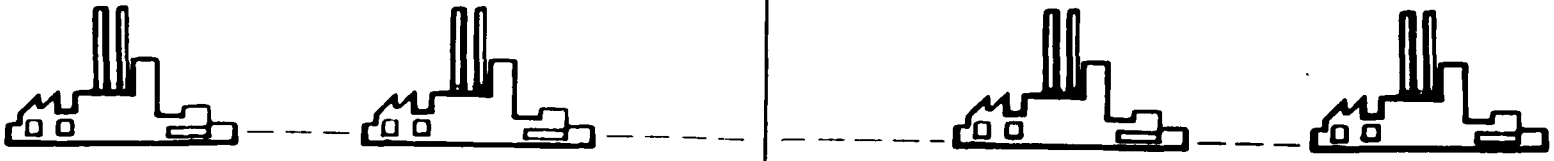
CHART NO. 10

END ITEM SPECIFICATIONS





AIR FORCE DRAWING



COMPETITIVE SOLICITATION

COMPETITIVE SOLICITATION

STANDARDIZED CABLE

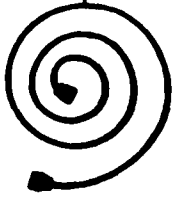


CHART NO. 9

CABLE USAGE

20,000 PIECES OF ELECTRIC DRIVEN AGE

AIR FORCE ESTIMATE IS 1,173 CABLES FOR THEIR FIRST YEAR REQUIREMENTS

RECOMMENDING AN INITIAL BUY FOR 2,145 CABLES

UNIT SAVINGS

$1,600 - $550 = $1,050

TOTAL SAVINGS

APPROXIMATELY TWO MILLION IN THE FIRST YEAR OF IMPLEMENTATION

CHART NO. 8

GIDEP - DATA BASES

- ENGINEERING DATA
- METROLOGY DATA
- RELIABILITY - MAINTAINABILITY DATA
- FAILURE EXPERIENCE DATA
- VALUE ENGINEERING DATA

VEDISARS

VEDISARS - WHO

- AVAILABLE TO ALL WITH ACCESS TO GIDEP
  - GOVERNMENT
  - INDUSTRY
- DOD VE POCs

VEDISARS - BENEFITS

- APPROVED COST SAVING IDEAS AVAILABLE AT NO CHARGE TO GOVERNMENT AGENCIES AND INDUSTRY
- IDEAS MAY BE TAILORED TO NEW APPLICATIONS
- SAVINGS SHARED FOR ACCEPTED AND IMPLEMENTED VECP's
- APPROVED VEP's/VECP's HAVE SAVED GOVERNMENT AND INDUSTRY BILLIONS OF DOLLARS

VEDISARS - DATA BASE

- UNCLASSIFIED INFORMATION
  - ITEM
  - FUNCTION
  - P/N, NSN, FSC
  - SAVINGS
  - POINT OF CONTACT
  - DESCRIPTION

GIDEP VALUE ENGINEERING (VE) DATA BASE REPORT
VE DATA INFORMATION STORAGE AND RETRIEVAL SYSTEM (VEDISARS)

(NOTE: Items in brackets [ ] are searchable; others are not.)

REPORT CONTROL SYMBOL
DD-DR&E(AR)1655

[1.] TITLE OF VE ACTION

[2.] INTERNAL CONTROL NO.

[3.] DATE OF SUBMISSION *(YYMM)*

[4.] TYPE OF ACTION (X one)		[5.] DOD COMPONENT	[6.] REPORTING ACTIVITY/COMMAND
	a. VECP		
	b. VEP		

[7.] CATEGORY (X one)								
a. AIRCRAFT		d. SHIP/BOAT		g. SUBMARINE		j. SPACE CRAFT		
b. WHEEL VEHICLE		e. TRACK VEHICLE		h. SUPPORT		k. COMMUNICATIONS		
c. SOFTWARE		f. CONSTRUCTION		i. MISSILES		l. AMMUNITION		

[8.] FUNCTION

[9.] ITEM NOMENCLATURE

[10.] MAJOR SYSTEM (X one) YES NO

11. SYSTEM IDENTIFICATION

[12.] PART NUMBER

[13.] NATIONAL STOCK NUMBER *(NSN)*

14. SAVINGS / BENEFITS BY FISCAL YEAR							
a. FY	$	K	b. FY	$	K		
c. FY	$	K	d. FY	$	K		

15. APPROPRIATION (Title)	16. PROGRAM ELEMENT	17. COST TO DEVELOP AND IMPLEMENT $ K	18. FUNDING APPROPRIATION

19. POINT OF CONTACT

a. NAME (Last, First, Middle Initial)	b. TITLE
c. OFFICIAL ADDRESS (Command, Division, Street, City, State, Zip Code)	d. PHONE NUMBER
	(1) AUTOVON
	(2) COMMERCIAL
	(3) FTS

20. CONTRACT NUMBER	21. CONTRACT MODIFICATION NUMBER AND DATE

22. CONTRACTOR NAME	23. CONTRACTOR IDENTIFICATION NUMBER

24. THIS ACTION RESULT OF DATA BASE SEARCH? (X one)		25. THIS ACTION RESULT OF VE COURSE / WORKSHOP (X one)		26. THIS ACTION RESULT OF VECP FROM SUBCONTRACTOR? (X one)	
YES		YES		YES	
NO		NO		NO	

[27] KEY SEARCH WORDS

28. DESCRIPTION OF VE ACTION *(Continue on separate sheet if necessary.)*

29. SUBMITTING OFFICIAL

a. TYPED NAME (Last, First, Middle Initial)	b. SIGNATURE	c. DATE SIGNED (YYMMDD)

DD Form 2333, DEC 84 *Previous edition is obsolete.*

INSTRUCTIONS FOR COMPLETION OF DD FORM 2333

Use DD Form 2333 to report approved and implemented VE actions in the VE Data Information Search and Retrieval System (VEDISARS).

Forward typed original to: GIDEP Operations Center, Attn: VE
Corona, CA 91720-5000

[1.] TITLE OF VE ACTION. Enter the title of the VE action. *(60 characters or less)*

[2.] INTERNAL CONTROL NUMBER. Enter the Reporting Command/Activity Control Number used to track the action internally. Example: NAVELEX VECP 8500004LS *(20 characters or less)*

[3.] DATE OF SUBMISSION. Enter current date in 4 digit format of year, month. Example: July 27, 1984 would be 8407.

[4.] TYPE OF ACTION. Mark type of action.

[5.] DOD COMPONENT. Enter the name of the DoD component preparing the report; i.e., Army, DLA, etc. *(10 characters or less)*

[6.] REPORTING ACTIVITY / COMMAND. Enter name of the activity reporting the action, OR if known, the VE activity address code assigned by GIDEP Operations Center. Example: AMC-MICOM OR XX12.

[7.] CATEGORY. Mark the applicable category.

[8.] FUNCTION. Enter the major function(s) expressed in a verb-noun format. Example: transmit torque. *(30 characters or less)*

[9.] ITEM NOMENCLATURE. Enter the noun nomenclature of the item actually being value engineered. *(40 characters or less)*

[10.] MAJOR SYSTEM. Mark the applicable box based on the definitions in DODI 5000.2.

11. SYSTEM IDENTIFICATION. Enter name of highest assembly / system the value engineered item is a part of; i.e., M1 Tank, F15 Aircraft, etc.

[12.] PART NUMBER. Enter the part number assigned in the technical data package for the value engineered item. *(20 characters maximum)*

[13.] NATIONAL STOCK NUMBER (NSN). Enter the NSN of the value engineered item OR if not assigned, enter Federal Supply Class (FSC).

14. SAVINGS / BENEFITS BY FISCAL YEAR. Enter the net savings to DoD by fiscal year and dollars in thousands.

15. APPROPRIATION. Enter the name of the appropriation benefitting from the VE action; i.e., RDTE, Procurement, etc.

16. PROGRAM ELEMENT. Enter the specific program element under the appropriation directly benefitting from the VE action.

17. COST TO DEVELOP AND IMPLEMENT. Enter the total cost (in thousands of dollars) to develop and implement the VE action.

18. FUNDING APPROPRIATION. Enter the name of the appropriation which funded the development and implementation of the VE action.

19. POINT OF CONTACT. Enter the specified data.

20. CONTRACT NUMBER. Enter the number of the contract the VECP was submitted under, if this is a VECP action. See Item 4.

21. CONTRACT MODIFICATION. Enter the number and date of the contract modification that incorporated the VECP.

22. CONTRACTOR NAME. Enter the name of the contractor/company that submitted the VECP.

23. CONTRACTOR IDENTIFICATION NUMBER. Enter the 9 digit alphanumeric DUNS code number for the contractor. *(Reference DoD FAR Supplement, Section 4.671- 5(b)(4)(i))*

24. DATA BASE SEARCH. Mark appropriate box, specifying whether this action was result of VEDISARS / GIDEP search.

25. VE COURSE / WORKSHOP. Mark appropriate box.

26. VECP FROM SUBCONTRACTOR. Mark appropriate box.

[27.] KEY SEARCH WORDS. Enter additional key search words not stated elsewhere in searchable portion of form.

28. DESCRIPTION OF VE ACTION. Describe VE Action.

29. SUBMITTING OFFICIAL. Typed name and signature of the local VE or GIDEP representative and date form signed.

NOTE: Item numbers in brackets [ ] are searchable; others are not.

DD Form 2333 Reverse, DEC 84

AC

GIDEP VALUE ENGINEERING (VE) DATA BASE REPORT
VE DATA INFORMATION STORAGE AND RETRIEVAL SYSTEM (VEDISARS)

(NOTE: Items in brackets [ ] are searchable; others are not.)

REPORT CONTROL SYMBOL
DD-DR&E(AR)1655

[1.] TITLE OF VE ACTION: TITLE

[2.] INTERNAL CONTROL NO.: DOC

[3.] DATE OF SUBMISSION (YYMM): DATE

[4.] TYPE OF ACTION (X one) OBS	a. VECP		[5.] DOD COMPONENT: E C		[6.] REPORTING ACTIVITY/COMMAND: P C						
	b. VEP										
[7.] CATEGORY (X one) DES1	a. AIRCRAFT		d. SHIP/BOAT		g. SUBMARINE		j. SPACE CRAFT				
	b. WHEEL VEHICLE		e. TRACK VEHICLE		h. SUPPORT		k. COMMUNICATIONS				
	c. SOFTWARE		f. CONSTRUCTION		i. MISSILES		l. AMMUNITION				

[8.] FUNCTION: DES2

[9.] ITEM NOMENCLATURE: DES3

[10.] MAJOR SYSTEM (X one) AP — YES / NO

11. SYSTEM IDENTIFICATION: ABS

[12.] PART NUMBER: PN

[13.] NATIONAL STOCK NUMBER (NSN): PN

14. SAVINGS / BENEFITS BY FISCAL YEAR: ABS

a. FY	$	K	b. FY	$	K		
c. FY	$	K	d. FY	$	K		

15. APPROPRIATION (Title): ABS

16. PROGRAM ELEMENT: ABS

17. COST TO DEVELOP AND IMPLEMENT: $ ABS K

18. FUNDING APPROPRIATION: ABS

19. POINT OF CONTACT

a. NAME (Last, First, Middle Initial): ABS

b. TITLE: ABS

c. OFFICIAL ADDRESS (Command, Division, Street, City, State, Zip Code): ABS

d. PHONE NUMBER

(1) AUTOVON: ABS

(2) COMMERCIAL: ABS

(3) FTS: ABS

20. CONTRACT NUMBER: ABS

21. CONTRACT MODIFICATION NUMBER AND DATE: ABS

22. CONTRACTOR NAME: ABS

23. CONTRACTOR IDENTIFICATION NUMBER: ABS

24. THIS ACTION RESULT OF DATA BASE SEARCH? (X one)	YES / NO	ABS	25. THIS ACTION RESULT OF VE COURSE / WORKSHOP (X one)	YES / NO	ABS	26. THIS ACTION RESULT OF VECP FROM SUBCONTRACTOR? (X one)	YES / NO	ABS

27.] KEY SEARCH WORDS: DES4,DES5,DES6,DES7

28. DESCRIPTION OF VE ACTION (Continue on separate sheet if necessary.): ABS

29. SUBMITTING OFFICIAL

a. TYPED NAME (Last, First, Middle Initial)	b. SIGNATURE	c. DATE SIGNED (YYMMDD)

DD Form 2333, DEC 84 — Previous edition is obsolete.

VALUE ENGINEERING DATABASE

BLOCK NO.	VE SEARCHABLE FIELD	GIDEP FIELD
	ACCESS NUMBER	AC
1.	TITLE OF VE ACTION	TITLE
2.	INTERNAL CONTROL NO.	DOC
3.	DATE OF SUBMISSION	DATE
4.	TYPE OF ACTION	OBS
5.	DOD COMPONENT	EC
6.	REPORTING ACTIVITY/COMMAND	PC
7.	CATEGORY	DES1
8.	FUNCTION	DES2
9.	ITEM NOMENCLATURE	DES3
10.	MAJOR SYSTEMS	AP
12.	PART NUMBER	PN
13.	NATIONAL STOCK NUMBER (NSN)	PN
27.	KEY SEARCH WORDS	DESn

BLOCK NO.	VE NONSEARCHABLE FIELD	GIDEP FIELD
	SYSTEM IDENTIFICATION	ABSTRACT
14.	SAVINGS/BENEFITS BY FY	ABSTRACT
15.	APPROPRIATION	ABSTRACT
16.	PROGRAM ELEMENT	ABSTRACT
17.	COST TO DEVELOP AND IMPLEMENT	ABSTRACT
18.	FUNDING APPROPRIATION	ABSTRACT
19.	POINT OF CONTACT	ABSTRACT
20.	CONTRACT NUMBER	ABSTRACT
21.	CONTRACT MODIFICATION NO. AND DATE	ABSTRACT
22.	CONTRACTOR NAME	ABSTRACT
23.	CONTRACTOR IDENTIFICATION NUMBER	ABSTRACT
24.	DATABASE SEARCH	ABSTRACT
25.	VE COURSE/WORKSHOP	ABSTRACT
26.	VECP FROM SUBCONTRACTOR	ABSTRACT
28.	DESCRIPTION OF VE ACTION	ABSTRACT
	ALL VE FIELDS	OPTV

GIDEP VALUE ENGINEERING (VE) DATA BASE REPORT
DATA INFORMATION STORAGE AND RETRIEVAL SYSTEM (VEDISARS)

(NOTE: Items in brackets [ ] are searchable; others are not.)

REPORT CONTROL SYMBOL: DD-DR&E(AR)1655

ITLE OF VE ACTION: 39, 20mm Gun Repair

[2.] INTERNAL CONTROL NO.: F834-3163

[3.] DATE OF SUBMISSION (YYMM): 8408

YPE OF ACTION (X one)	a. VECP		[5.] DOD COMPONENT: USAF		[6.] REPORTING ACTIVITY/COMMAND: V282						
	b. VEP	X									
ATEGORY (one)	a. AIRCRAFT	X	d. SHIP/BOAT		g. SUBMARINE		j. SPACE CRAFT				
	b. WHEEL VEHICLE		e. TRACK VEHICLE		h. SUPPORT		k. COMMUNICATIONS				
	c. SOFTWARE		f. CONSTRUCTION		i. MISSILES		l. AMMUNITION				

UNCTION: Weapons System

EM NOMENCLATURE: M39, 20 mm Gun	[10.] MAJOR SYSTEM (X one)	YES	X
		NO	

YSTEM IDENTIFICATION: F-5 Aircraft

PART NUMBER: 8436500	[13.] NATIONAL STOCK NUMBER (NSN): 1005-00-930-7786						
AVINGS / BENEFITS BY 'ISCAL YEAR	a. FY	$ 3873	K	b. FY	$		K
	c. FY	$	K	d. FY	$		K

PPROPRIATION (itle): PROC	16. PROGRAM ELEMENT	17. COST TO DEVELOP AND IMPLEMENT: $ 121.6 K	18. FUNDING APPROPRIATION: O+M

OINT OF CONTACT

AME (Last, First, Middle Initial): NIELSEN, Mark A.	b. TITLE: 00-ALC VE Program Manager
FICIAL ADDRESS (Command, Division, Street, City, State, Zip Code): 00-ALC/MMEAR Hill AFB, UT 84056	d. PHONE NUMBER (1) AUTOVON 458-7481 (2) COMMERCIAL (801) 777-7481 (3) FTS
ONTRACT NUMBER	21. CONTRACT MODIFICATION NUMBER AND DATE
ONTRACTOR NAME	23. CONTRACTOR IDENTIFICATION NUMBER

HIS ACTION RESULT OF ATA BASE SEARCH? (X one)	YES		25. THIS ACTION RESULT OF VE COURSE / WORKSHOP (X one)	YES		26. THIS ACTION RESULT OF VECP FROM SUBCONTRACTOR? (X one)	YES	
	NO	X		NO	X		NO	X

KEY SEARCH WORDS: Gun Repair, M39, Receiver

ESCRIPTION OF VE ACTION (Continue on separate sheet if necessary.)

When the receiver of the 20 mm M39 gun damaged beyond repair, the entire gun must be condemned. Until the implementation of s repair, the M39 guns were being condemned at a rate of 80 percent. The only supply these guns was the repairable assets. No new were being manufactured. The repair and engthening corrective action taken was to drone 1 inch holes at the 14 locations where huck bolts held the slide rail to the receiver. All the material that was near the k bolt was removed. Any cracks not repaired at an 80 percent rate if not implemented the process were then ground out and welded. This repair action was responsible for rings of over 3000 M39 guns which would have been condemned.

UBMITTING OFFICIAL

PED NAME (Last, First, Middle Initial)	b. SIGNATURE	c. DATE SIGNED (YYMMDD)

```
SUBJECT CATEGORY OR DESCRIPTOR:


BJECT CATEGORY YOU ARE SEARCHING IS:
ENGINEERING (VALU)
ITER YOUR $WHEN, ($LIST), $GO STATEMENTS
 DOC = 'F834-3163' $GO

BJECT CATEGORY YOU ARE SEARCHING IS:
ENGINEERING (VALU)

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
  1 RECORDS SELECTED
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
 OPTV $GO

BJECT CATEGORY YOU ARE SEARCHING IS:
ENGINEERING (VALU)
1-1B12
M39, 20 MM GUN REPAIR
34-3163
408

IRCRAFT
EAPONS SYSTEM
UN REPAIR
OR SYSTEM: NO
6500
0 MM GUN
IVE: SYSTEM ID: F-5 AIRCRAFT
NGS/BENEFITS: FY83 $3873K
OP: TAC       PROG ELEM: 00-ALC/MAWFP       COST: $121,600K  FUND:
   ◆ POINT OF CONTACT: NIELSEN, MARK A.            TITLE: 00-ALC VEP
R        ◆ ADDRESS: 00-ALC/MMEAR: HILL AFB UT  84056
VON: 458-7481          COMMERCIAL: (801) 777-7481    FTS: N/A
RACT NO.: N/A                          MOD NO: N/A
RACTOR NAME: N/A
RACTOR ID:   N/A            DATA BASE SEARCH: NO   COURSE/WORKSHOP:
 ◆ SUBCONTRACTOR ACTION RESULT:  NO
CTION:  WHEN THE RECEIVER OF THE 20 MM M39 GUN IS DAMAGED BEYOND
, THE ENTIRE GUN MUST BE CONDEMNED. UNTIL THE IMPLEMENTATION OF
EPAIR, THE M39 GUNS WERE BEING CONDEMNED AT A RATE OF 80 PERCENT.
LY SUPPLY OF THESE GUNS WAS THE REPAIRABLE ASSETS. NO NEW WERE
 MANUFACTURED. THE REPAIR AND STRENGTHENING CORRECTIVE ACTION TAKEN
 DRONE 1 INCH HOLES AT THE 14 LOCATIONS WHERE THE HUCK BOLTS HELD
IDE RAIL TO THE RECEIVER. ALL THE MATERIAL THAT WAS NEAR THE HUCK
AS REMOVED. ANY CRACKS NOT REPAIRED AT AN 80 PERCENT RATE IF NOT
ENTED. BY THE PROCESS WERE THEN GROUND OUT AND WELDED. THIS REPAIR
 WAS RESPONSIBLE FOR SAVINGS OF OVER 3000 M39 GUNS WHICH WOULD
EEN CONDEMNED

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
  1 RECORDS SELECTED
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
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EP VALUE ENGINEERING (VE) DATA BASE REPORT
A INFORMATION STORAGE AND RETRIEVAL SYSTEM (VEDISARS)

(NOTE: Items in brackets [ ] are searchable; others are not.)

REPORT CONTROL SYMBOL: DD-DR&E(AR)1655

F VE ACTION: nation of Gold Finish Requirement on Headset Microphone

[2.] INTERNAL CONTROL NO.: V-83-012-15A

[3.] DATE OF SUBMISSION (YYMM): 8407

F ACTION	a. VECP	X	[5.] DOD COMPONENT		[6.] REPORTING ACTIVITY/COMMAND						
)	b. VEP		DLA		V344						
IRY	a. AIRCRAFT		d. SHIP/BOAT		g. SUBMARINE		j. SPACE CRAFT				
	b. WHEEL VEHICLE		e. TRACK VEHICLE		h. SUPPORT		k. COMMUNICATIONS	X			
	c. SOFTWARE		f. CONSTRUCTION		i. MISSILES		l. AMMUNITION				

ON: ovide Communication

OMENCLATURE: adset Microphone

[10.] MAJOR SYSTEM (X one): YES [ ] NO [X]

IDENTIFICATION: 161 D/U

NUMBER: -SM-B983683

[13.] NATIONAL STOCK NUMBER (NSN): 5965-01-104-0947

S/BENEFITS BY FISCAL YEAR: a. FY 83 $ 23 K; b. FY 84 $ 39 K; c. FY $ K; d. FY $ K

RIATION	16. PROGRAM ELEMENT	17. COST TO DEVELOP AND IMPLEMENT	18. FUNDING APPROPRIATION
PROC		$ .499 K	PROC

OF CONTACT

a. NAME (Last, First, Middle Initial): NS, David R.

b. TITLE: Value Engineering Analyst

ADDRESS (Command, Division, Street, City, State, Zip Code):
Engineering Program Office
Wilmington Pike
, OH 45444

d. PHONE NUMBER
(1) AUTOVON 986-6246
(2) COMMERCIAL 513-296-6246
(3) FTS

CT NUMBER: 00-84-C-0414

21. CONTRACT MODIFICATION NUMBER AND DATE: P00003 7 Jun 84

CTOR NAME: COM Electronics, Inc.

23. CONTRACTOR IDENTIFICATION NUMBER: 18068

TION RESULT OF ASE SEARCH? (X one)	YES		25. THIS ACTION RESULT OF VE COURSE/WORKSHOP (X one)	YES		26. THIS ACTION RESULT OF VECP FROM SUBCONTRACTOR? (X one)	YES	
	NO	X		NO	X		NO	X

ARCH WORDS: l Finish, H161 D/U

TION OF VE ACTION (Continue on separate sheet if necessary.) U. S. Army headset microphone type (D)/U and a requirement for gold contact finish on 14 detail drawings. Contractor engineering change proposal (VECP) to eliminate gold finish submitted to USACERCOM SC value engineering, approval granted Jan 83. (a) Elimination of costly finish rement. (b) Reduction in unit cost. 17,500 each at $2.50 per unit (future act) contractor share @ $1.25 each.....$$21,875K government share @ $1.25 each ..$21,875K.

TING OFFICIAL

NAME (Last, First, Middle Initial)	b. SIGNATURE	c. DATE SIGNED (YYMMDD)

333, DEC 84 *Previous edition is obsolete.*

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BJECT CATEGORY OR DESCRIPTOR:


ECT CATEGORY YOU ARE SEARCHING IS:
GINEERING (VALU)
R YOUR $WHEN, ($LIST), $GO STATEMENTS
OC = 'V-83-012-15A' $GO

ECT CATEGORY YOU ARE SEARCHING IS:
GINEERING (VALU)

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
 RECORDS SELECTED
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
PTV $GO

ECT CATEGORY YOU ARE SEARCHING IS:
GINEERING (VALU)
1E10
LUE ENGINEERING CHANGE PROPOSAL (VECP)
-012-15A
7

MUNICATION
DSET MICROPHONE
 SYSTEM: NO
-B983686
E: SYSTEM ID: H161D/U
S/BENEFITS: FY83 $23K; FY84 $39K
: PROC      PROG ELEM: PROCUREMENT        COST: $.499K      FUND:
◆ POINT OF CONTACT: SAMMONS, DAVID R.           TITLE: VALUE ENG.
      ◆ ADDRESS: DESC:VAL ENG PROG OFFICE;1507 WILMINGTON PIKE;
OH  45444      ◆ AUTOVON: 586-6246          COMMERCIAL:
6246      FTS: N/A                ◆ CONTRACT NO.: DLA900-84-C-0414
P00003  7 JUN 84               ◆ CONTRACTOR NAME: ASTROCOM
ICS, INC.                                    ◆ CONTRACTOR ID:
      DATA BASE SEARCH: NO   COURSE/WORKSHOP: NO     ◆
ACTOR ACTION RESULT:  NO
ION:  U. S. ARMY HEADSET MICROPHONE TYPE H161 (D)/U AND A
ENT FOR GOLD CONTACT FINISH ON 14 DETAIL DRAWINGS. CONTRACTOR
GINEERING CHANGE PROPOSAL (VECP) TO ELIMINATE GOLD FINISH
D TO USACERCOM BY DESC VALUE ENGINEERING, APPROVAL GRANTED JAN
ELIMINATION OF COSTLY FINISH REQUIREMENT. B.  REDUCTION IN UNIT
,500 EACH AT $2.50 PER UNIT (FUTURE CONTRACT) CONTRACTOR SHARE @
CH.................$21,875K GOVERNMENT SHARE @ $1.25
.............. 21,875K

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 RECORDS SELECTED
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
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END

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